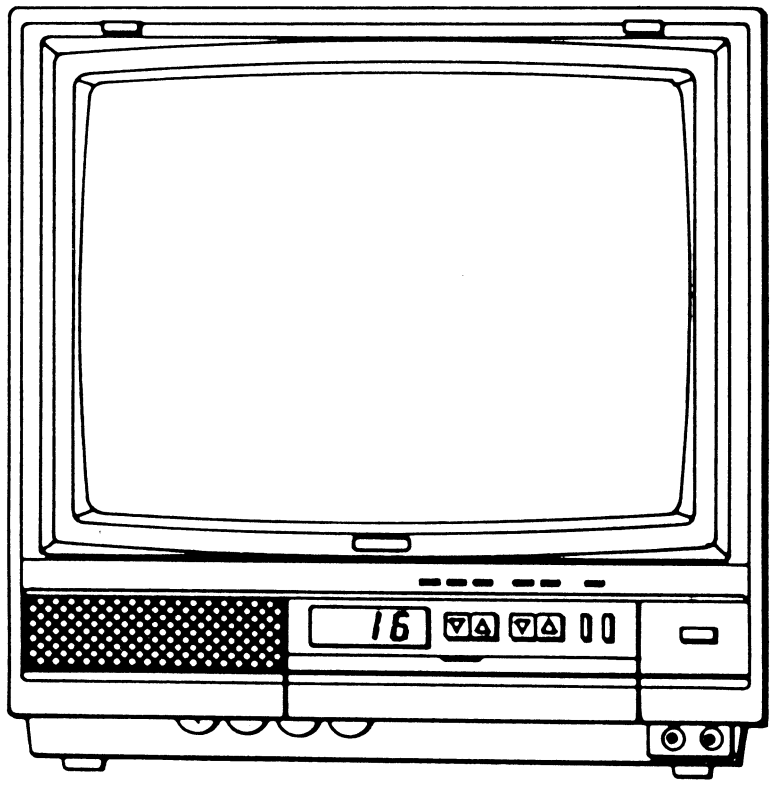
Service Manual

Solid State
14" Color Television Receiver

Model K-3714 R (mit FB)
K-3714 A (ohne FB)

PAL-B/G (FTZ)



Bei technischen Änderungen können Ergänzungsblätter angefordert werden.

Specifications are subject to change without notice.

SL-Druck GmbH

AF10

CONTENTS

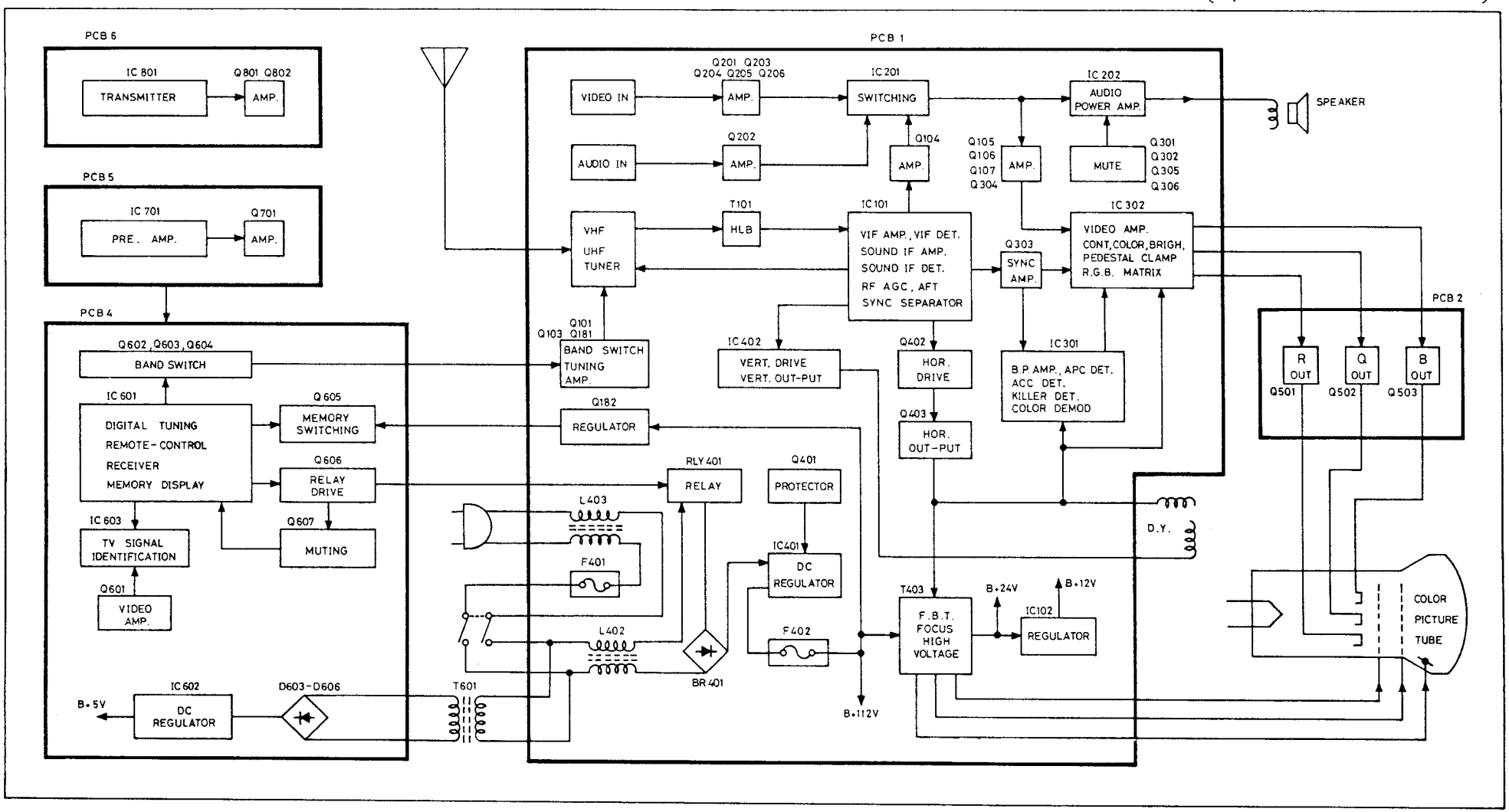
This manual is the latest at the time of printing, and does not include the modification which may be made after the printing, by the constant improvement of product.

SPECIFICATION

SYSTEM	:	PAL-B/G-FTZ (W. GERMANY)	
CHANNEL COVERAGE VHF LOW	:	2 - 4	CH
VHF HIGH	:	5 - 12	CH
UHF	:	21 - 69	CH
FREQUENCY RANGE VHF LOW	:	47 - 88	MHZ
VHF HIGH	:	174 - 230	MHZ
UHF	:	470 - 862	MHZ
SCANNING LINES	:	625	LINES
HORIZONTAL	:	15625	HZ
VERTICAL	:	50	HZ
IF FREQUENCY VIDEO	:	38.9	MHZ
SOUND	:	33.4	MHZ
CHROMA,	:	34.47	MHZ
VISION / SOUND SEPARATION	:	5.5	MHZ
SENSITIVITY VHF LOW	:	32	uV
VHF HIGH	:	56	uV
UHF	:	80	uV
OUTPUT POWER MAXIMUM	:	900	mW
10% THD	:	700	mW
CRT	:	14"(35.5CM) DIAGONAL ,22.5mm NECK DIAMETER, 90° DEFLECTION ANGLE.	
SPEAKER	:	3.5" x 2" 16 OHM	
ANTENNA IMPEDANCE	:	75 OHM	
VIDEO INPUT *	:	1Vp-p (POSITIVE VIDEO) 75 OHM IMPEDANCE	
AUDIO INPUT *	:	0.5V r.m.s. (1 KHZ) 47K OHM IMPEDANCE	

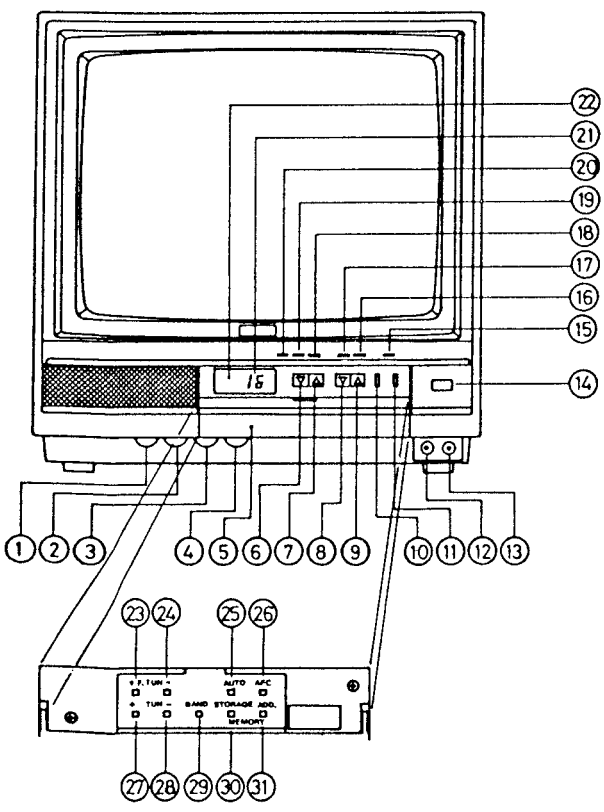
-----REMARK * OPTIONAL -----

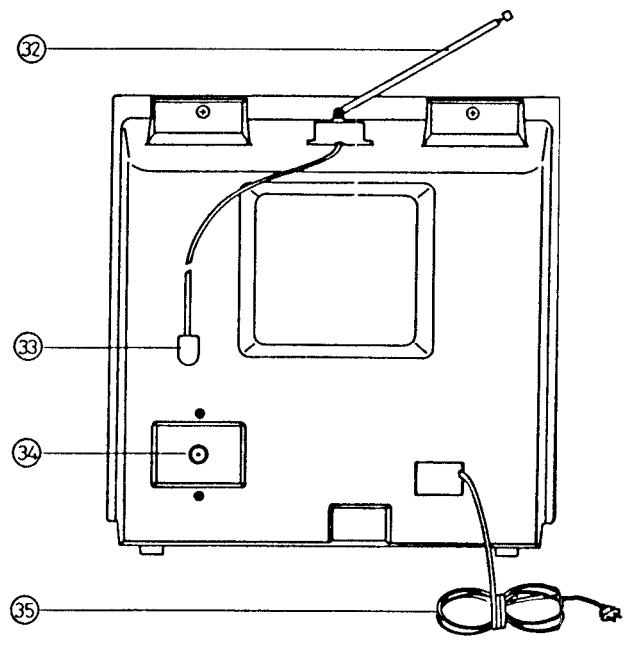
BLOCK DIAGRAM (W/AUDIO VIDEO JACK)



CONTROLS LOCATION :

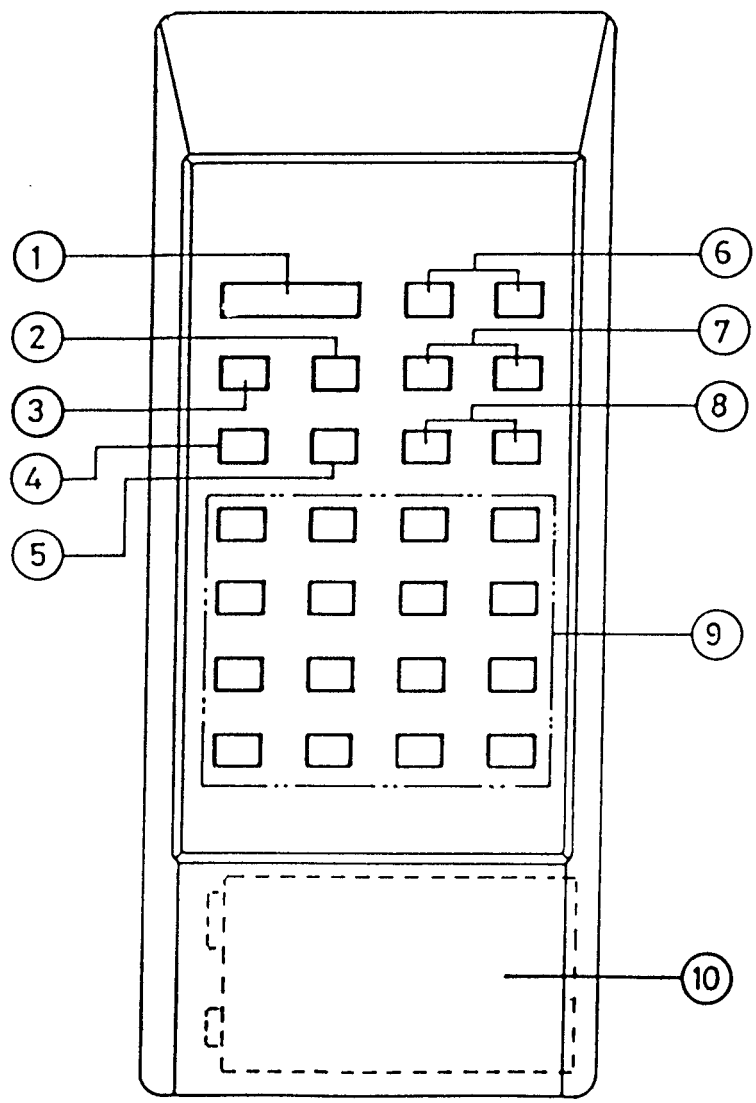
1. Contrast Control
2. Brightness Control
3. Color Control
4. Vertical Hold Control
5. Panel Door
6. Channel Down Control
7. Channel Up Control
8. Volume Down Control
9. Volume Up Control
10. TV / VIDEO Selector
11. Stand By Control
12. Video-in Jack
13. Audio-in Jack
14. Power ON/OFF Switch
15. Stand By Indicator
16. Video Indicator
17. TV Indicator
18. UHF Band Indicator
19. High VHF Band Indicator
20. Low VHF Band Indicator
21. Channel Indicator
22. Remote Sensor
23. Fine Tune (+)
24. Fine Tune (-)
25. Auto Tune
26. AFC
27. Channel Tuning (+)
28. Channel Tuning (-)
29. Band Selector Button
30. Storage Button
31. Address Button
32. Telescopic Antenna
33. Telescopic Antenna Connector
34. Antenna Input Socket (75 Ohm)
35. AC Power Cord





REMOTE HAND SET UNIT PARTS LIST ON LINE DRAWING :

1. POWER ON/OFF BUTTON
2. AFC BUTTON
3. MUTE BUTTON
4. BAND BUTTON
5. AUTO TUNE BUTTON
6. VOLUME UP/DOWN
7. CHANNEL UP/DOWN
8. TUNING UP/DOWN
9. CHANNEL SELECTORS
10. BATTERY COMPARTMENT LID.



ALIGNMENT INSTRUCTION

I. PLEASE READ BEFORE ATTEMPTING SERVICE

1. Do not connect any antenna plug directly to the tuner socket and do not connect any equipments directly to the TV chassis, otherwise it may be burnt out the TV or equipment, except an isolation transformer is used for main power source of the TV sets.
2. Never disconnect any leads while receiver is in operation.
3. Disconnect all power before attempting any repairs.
4. Do not short any portion of the circuits while power is on.
5. For reason of safety, all parts replaced should be identical, (For Parts and Parts Numbers see PARTS LIST).
6. Before alignment the set must be pre-heated for 30 minutes or more and erase magnetism thoroughly from CRT front chassis frame by erase coil.

II. TEST EQUIPMENT

1. VIF Sweep Generator
2. SIF Sweep Generator
3. Color Bar / Dot / Cross Hatch Generator
4. DC Power Supply (24V)
5. Oscilloscope
6. Vacuum Tube Volt Meter
7. Volt Ohm Meter
8. High Voltage Meter
9. Ampere Meter (0.5 Class, DC 3mA Max.)
10. Demagnetizing Coil
11. Philips Pattern Generator
12. Frequency Counter
13. Continuous Waveform Generator

III. TANK COIL ALIGNMENT

A. PREPARATION STEP (See FIG. 2)

1. Connect OUTPUT lead of VIF Sweep Generator between tuner test point TP and tuner case.
2. Connect lead of FROM DET between TP 108 and GND.
3. Supply DC +24V to ⊕ lead of D410.
4. Supply RF AGC bias voltage to TP 105 (See Fig. 1).

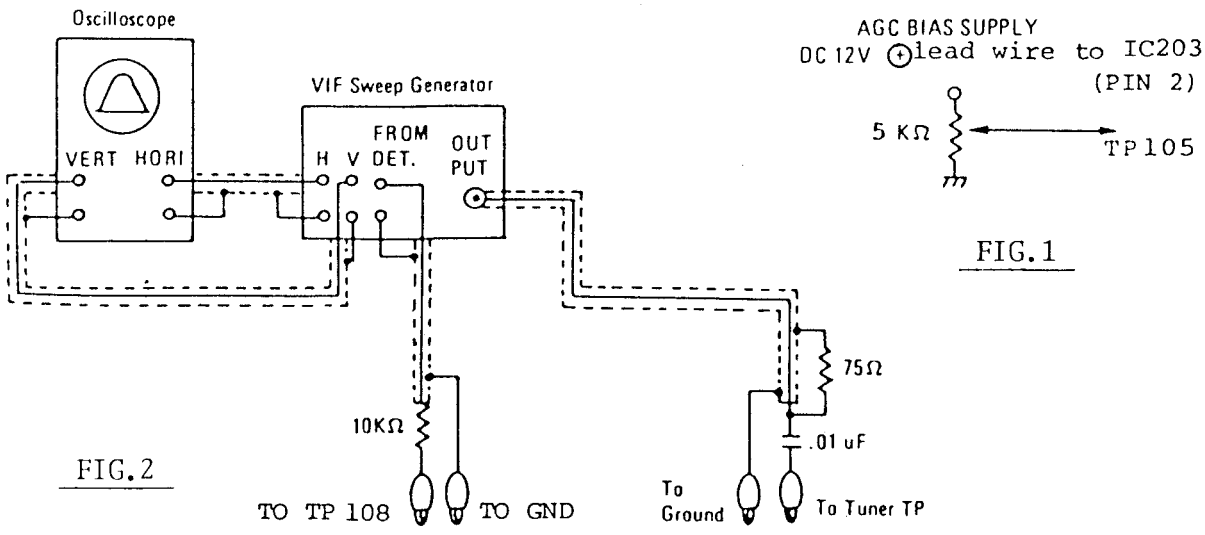


FIG.1

FIG.2

B. ALIGNMENT STEP (See FIG. 3).

1. Band switch connect to VIF high position.
2. Adjust AGC bias voltage for maximum amplitude of waveform.
3. Adjust the level of Sweep Generator to achieve 1Vp-p output.
4. Adjust T102 to obtain maximum amplitude of response cause at PC (38.9 MHz) as in FIG.3.

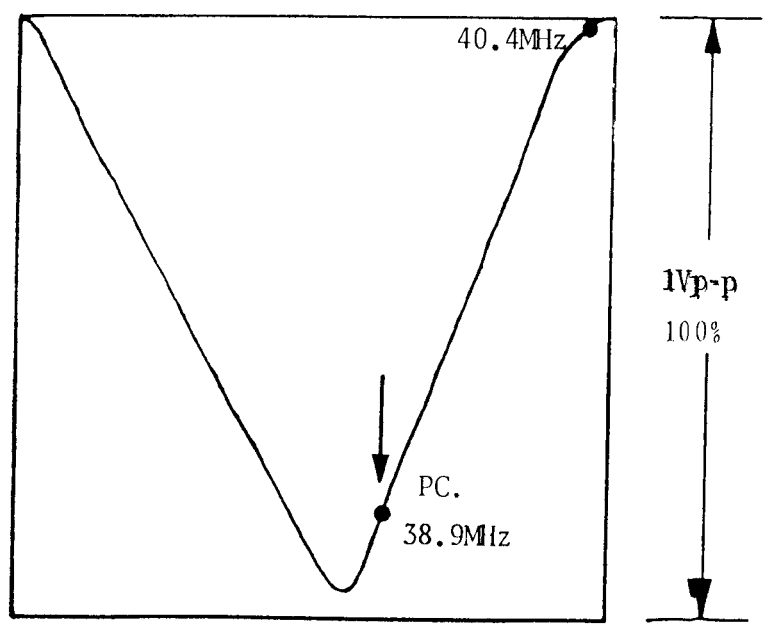


FIG.3

IV. VIF ALIGNMENT

A. PREPARATION STEP (SEE FIG. 2)

1. Connect output lead of VIF Sweep Generator between tuner test point TP and tuner case.
2. Connect resistor (100 Ohm) between TP 106 and TP 107.
3. Connect lead of FROM DET between TP 108 and GND.
4. Supply DC +24V to ⊕ lead of D410.
5. Supply RF AGC bias voltage to TP 105 (SEE FIG. 1).

B. ALIGNMENT STEP

1. Adjust AGC bias voltage for maximum amplitude of waveform.
2. Adjust the level of Sweep Generator to achieve 1Vp-p output.
3. Increase the output level of Sweep Generator in 20 dB.
4. Adjust AGC bias voltage to achieve 1Vp-p Output (on Oscilloscope).
5. Adjust core of T101 (C, D, E, F core) and tuner converter coil to obtain the waveform as in Fig. 4.
6. Increase the output level of sweep generator in 10 dB, Adjust (A) core of T101 to obtain the waveform as in Fig. 5 (D Point).
7. Increase the output level of sweep generator in 10dB, Adjust L101 to obtain the waveform as in Fig. 5 (E Point).

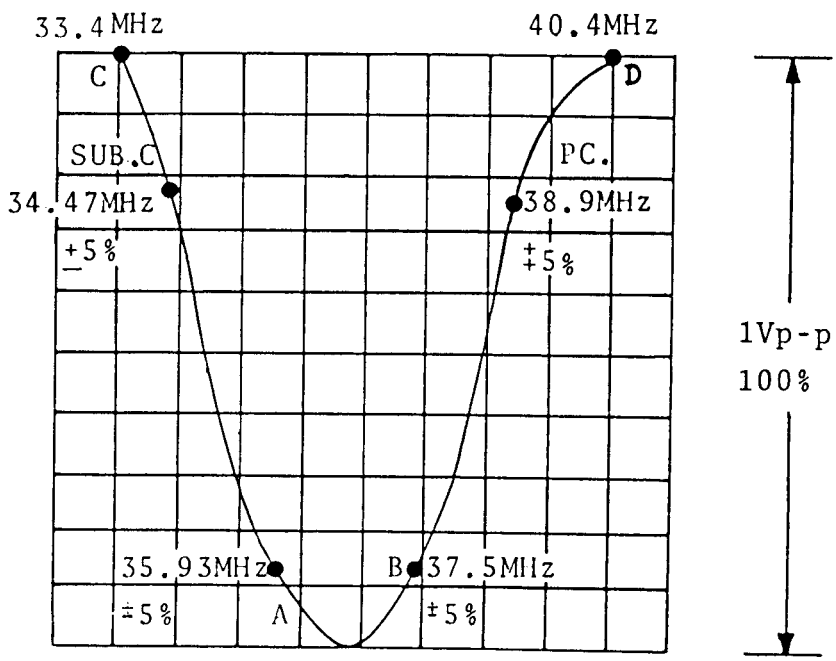


FIG. 4

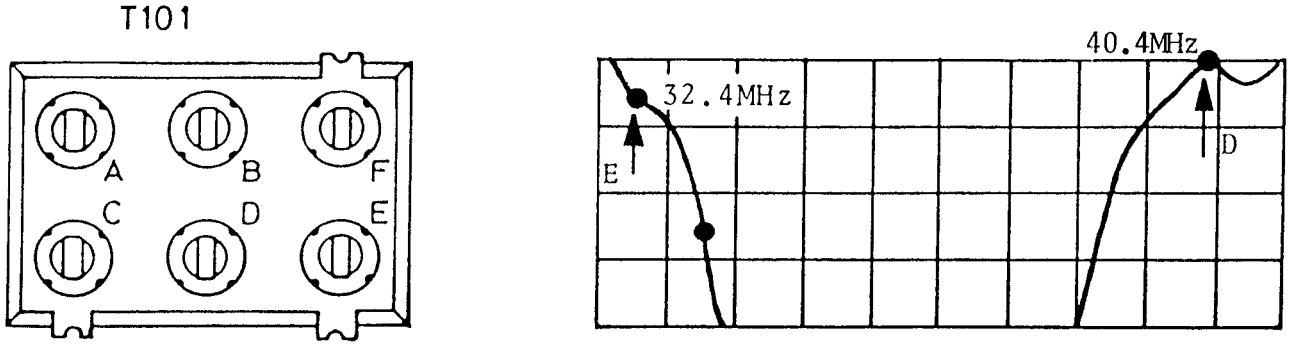


FIG.5

V. AFC ALIGNMENT

A. PREPARATION STEP

1. Connect RF AGC bias voltage at TP 105.
2. Remove the damping resistor (100 Ohm) at TP 106, TP 107.
3. Connect output lead of Sweep Generator to tuner test point TP and tuner case.
4. Increase the output level of Sweep Generator in 10dB.
5. Connect lead of FROM DET between TP102 and GND.
6. Supply DC +12V to ⊕ lead of D 410.

B. ALIGNMENT STEP

1. Adjust the AGC bias to achieve 3Vp-p output.
2. Adjust T103 so that picture carrier 38.9MHz is centered as in FIG.6 .

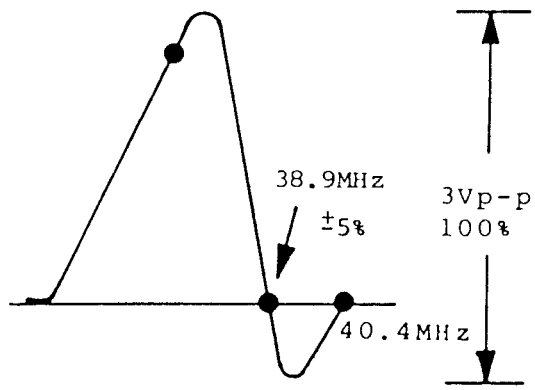


FIG.6

VI. SIF ALIGNMENT

A. PREPARATION STEP (See Fig. 7)

1. Connect output lead of SIF sweep generator between TP108 and ground
2. Connect lead of FROM DET between TP201 and TP202.
3. Supply DC 24V to ⊕ lead of D 410.

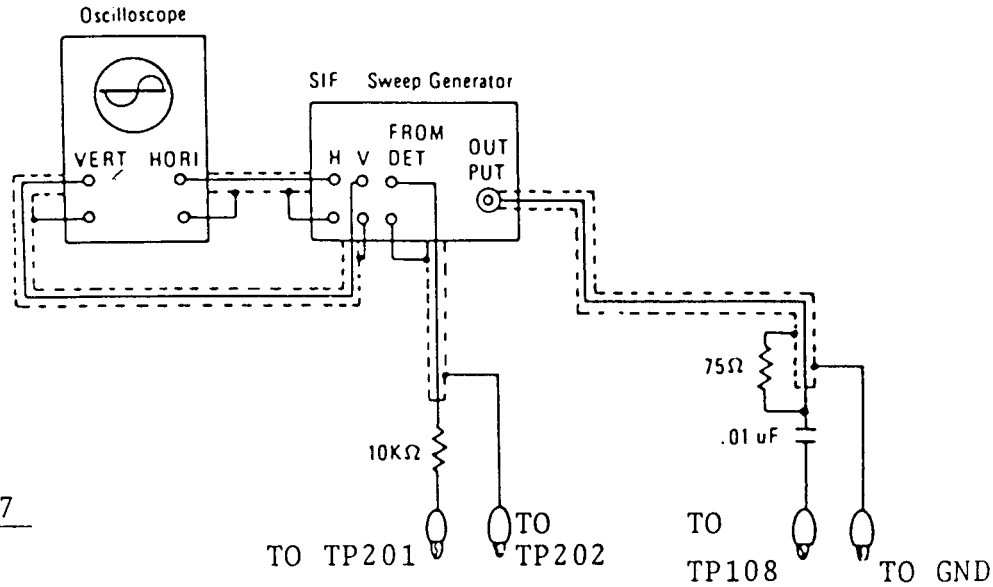


FIG.7

B. ALIGNMENT STEP

1. Adjust output of sweep generator to achieve 4Vp-p between markers of 100 KHZ.
2. Adjust T104 so that sound carrier is centered as in Fig.8.
3. Confirm the waveform as in FIG.8 .

NOTE : Input level : — 30 to 0 dB.

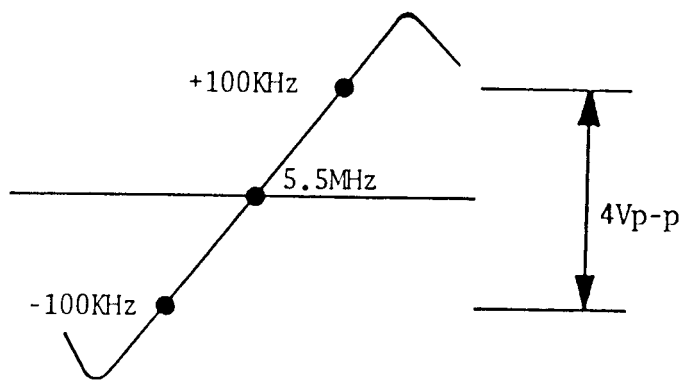


FIG.8

VII. CHROMA ALIGNMENT

A. PREPARATION STEP (See Fig. 9)

1. Supply AGC bias voltage to TP105 (See Fig. 1)
2. Supply DC 24V to ⊕ lead wire of D410.
3. Connect Pin 2, 3 of IC301 by jumper wire.
4. Connect output lead of chroma sweep generator to tuner test point TP.
5. Connect the lead of detector TP301
6. Set the select switch of sweep generator to modulation position.

NOTE : CHROMA IF (38.9 MHz).

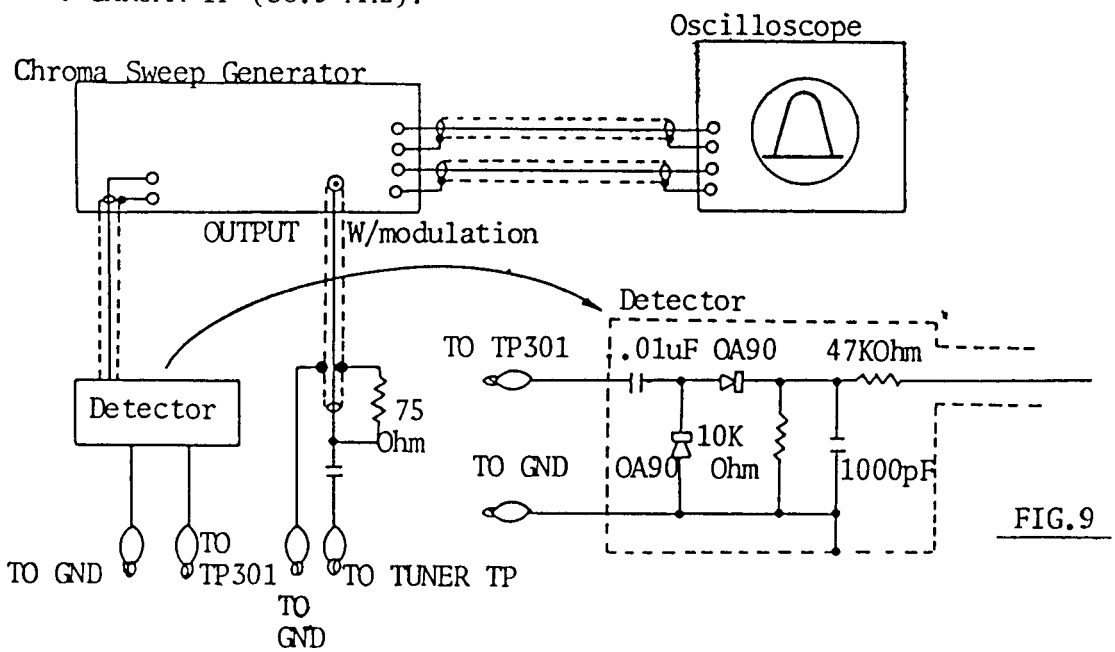


FIG.9

B. ALIGNMENT STEP

1. Adjust IF AGC bias voltage to obtain the maximum output.
2. Adjust output level of chroma sweep generator to achieve 0.5 Vp-p at output of detector.
3. Adjust T301 to obtain the waveform as in Fig. 10.

NOTE : Input level : −20 ~ 0 dB

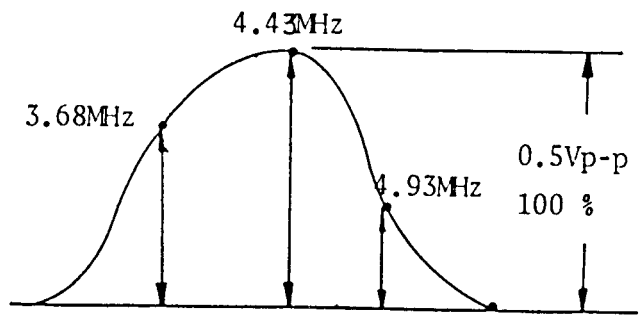


FIG.10

VIII. HORIZONTAL CIRCUIT ALIGNMENT

1. Receive PHILIPS pattern. Input signal 80 dBuv.
2. Connect ⊕ lead of 100 uF capacitor to IC101 AN5150 pin(6) and ground.
3. Adjust VR102 to obtain the picture running at center.
4. Remove the 100 uF capacitor.

IX. VERTICAL CIRCUIT ADJUSTMENT

1. Set V-HOLD control (VR104) to middle position.
2. Set the CHANNEL SELECTOR to no signal channel.
3. Connect the frequency counter between V-deflection yoke and ground.
4. Adjust SUB-V-HOLD (VR103) to the reading of 50 Hz.
5. Receive Philips Pattern.
6. Adjust V-HEIGHT control to obtain a normal picture.

X. WHITE BALANCE ADJUSTMENT

1. Set the SCREEN control (VR514) to middle position.
2. Turn the red, and blue LOW-LIGHT controls (VR503,VR516) to middle position, and turn the DRIVE controls (VR518, VR505) to Middle position.
3. Receive a black and white picture signal and set the AFC switch to 'ON' position.
4. Turn the SCREEN control (VR514) to minimum position.
5. Set the SUB-BRIGHTNESS control (VR401) to middle position, then turn the CONTRAST control (VR303) and COLOR control (VR304) fully counter-clockwise.
6. Set the SERVICE switch (S301) to 'SERVICE' position.
7. Connect volt meter between (R513) and ground, and adjust BRIGHTNESS control (VR302) to the reading of DC 140V. If DC 140V can not be obtain, adjust the SUB-BRIGHTNESS control (VR401).
8. Slowly turn the SCREEN control clockwise to the point where the green color just illuminates.
9. The LOW-LIGHT control volume corresponded to the color appeared on the CRT, leaves as it is, and need no further adjustment for this control volume. Turn the rest of LOW-LIGHT control volumes toward clockwise to get white horizontal line on CRT.
10. Reset the SERVICE switch (S301) to 'NORMAL' position and turn BRIGHTNESS control (VR302) to middle position.
11. Adjust red and blue DRIVE controls (VR518, VR505) to obtain a uniform white raster.

12. Check the black and white picture detail for proper black and white rendition (no coloration) from lowlights to highlights and all brightness levels for proper tracking.
Proper tracking at all brightness levels can be obtain when the SCREEN control, LOW-LIGHT controls and DRIVE controls are properly adjusted.
If the results are unsatisfactory, repeat from the beginning.

XI. FOCUS ADJUSTMENT

1. Set CONTRAST control to maximum position and BRIGHTNESS control to middle position.
2. Adjust FOCUS control (on the FBT) to obtain a sharpest and clearest picture on the CRT.

XII. RF AGC ALIGNMENT

1. Receive the signal of band-III (VHF HIGH) channel, and set the AFC switch to 'ON' position.
2. Set the input field strength in 62 ± 3 dB.
3. Adjust RF AGC control (VR101) to the point where noise is disappeared.

XIII. COLOR DEMODULATOR ALIGNMENT, DELAY LINE ALIGNMENT

1. Receive Philips pattern and set the AFC switch to 'ON' position.
2. Set the 'SERVICE' switch (S301) to 'SERVICE' position.
3. Set COLOR control (VR304) to maximum position.
4. Connect oscilloscope to TP304(B-out).
5. Adjust CT 301 to obtain the waveform as in Fig. 11.
6. Adjust T302, T303 and VR301 to obtain the waveform as in Fig. 11.

NOTE : Cores of T302 and T303 should be adjusted equal height of core.

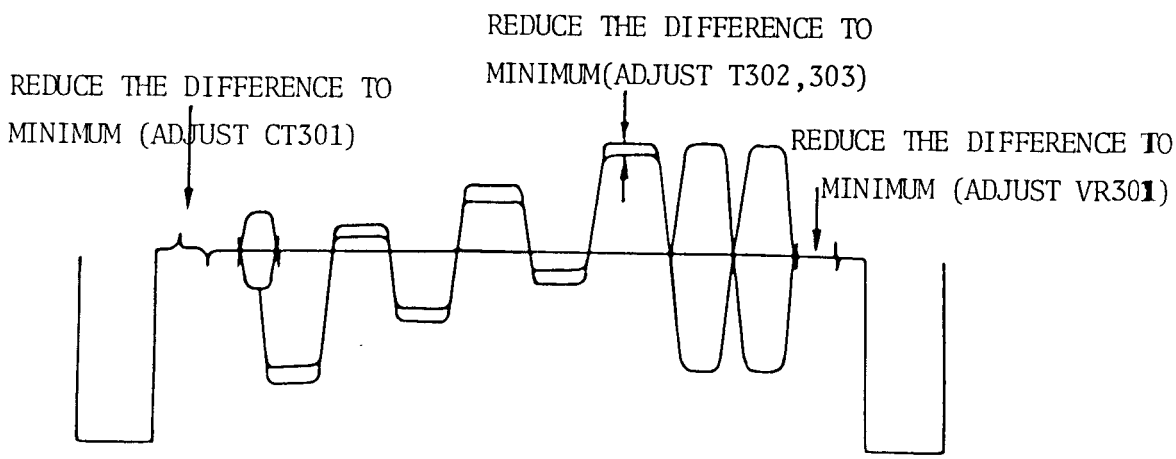


FIG.11

XIV. SUB-BRIGHTNESS ALIGNMENT

1. Connect the negative side of DC ampere meter (3mA full scale range) to TP 401 and the positive side to ground.
2. Receive Philips pattern and set AFC switch set 'ON' position.
3. Set controls as follow :

   BRIGHTNESS control ..... Min. position
   CONTRAST control ..... Max. Position
   COLOR control ..... Min. position
4. Adjust SUB-BRIGHTNESS control (VR401) to the reading of 400 uA.

XV. COLOR PURITY ADJUSTMENT (See Fig. 12)

BEFORE ALL ADJUSTMENT DESCRIBED BELOW ARE ATTEMPTED, V-HOLD, H-HOLD, V-HIGH, B+ VOLTAGE AND FOCUSING ADJUSTMENT MUST BE COMPLETED.

1. Place the TV receiver facing NORTH or SOUTH.
2. Plug in TV receiver and turn it on.
3. Operate the TV receiver over 30 minutes.
4. Fully degauss the TV receiver by using an external degaussing coil.
5. Receive a crosshatch pattern and adjust the static convergence control roughly.
6. Loosen the clamp screw of the deflection yoke and pull the deflection yoke towards you.
7. Fully turn the red and blue low light controls (VR503, VR516) counter-clockwise.
8. Adjust the purity magnets so that green field is obtained at the center of the screen.
9. Slowly push the deflection yoke towards bell of CRT and set it where a uniform green field is obtained.
10. Tighteen the clamp screw of the deflection yoke.

XVI. CONVERGENCE ADJUSTMENT (See Fig. 12)

1. Receive a dotted pattern.
2. Unfix the convergence magnet clamper and align red with blue dots at the center of the screen by rotating (R, B) static convergence Magnets.
3. Align Red / Blue with green dots at the center of the screen by rotating (RB-G) static convergence magnet.
4. Fix the convergence magnets by turning the clamper.
5. Remove the DY wedges and slightly tilt the deflection yoke horizontally and vertically to obtain the good overall convergence.
6. Fix the deflection yoke by wedges.
7. If purity error is found, follow 'PURITY ADJUSTMENT' instructions.

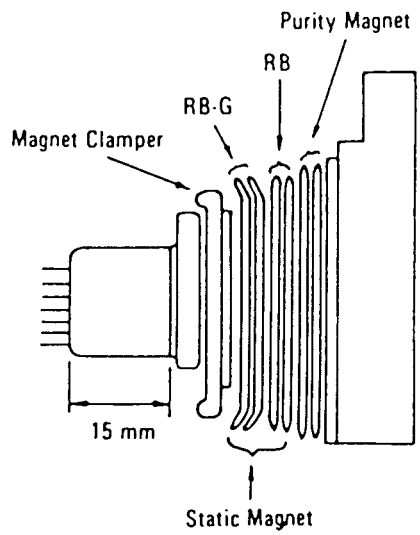
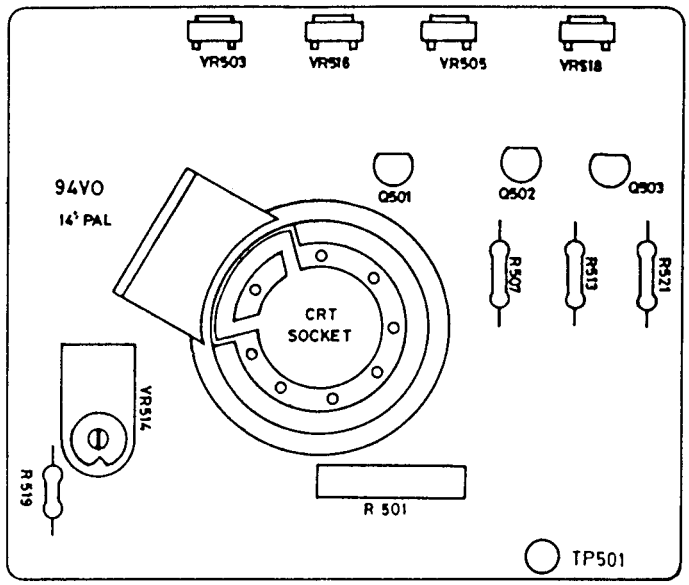
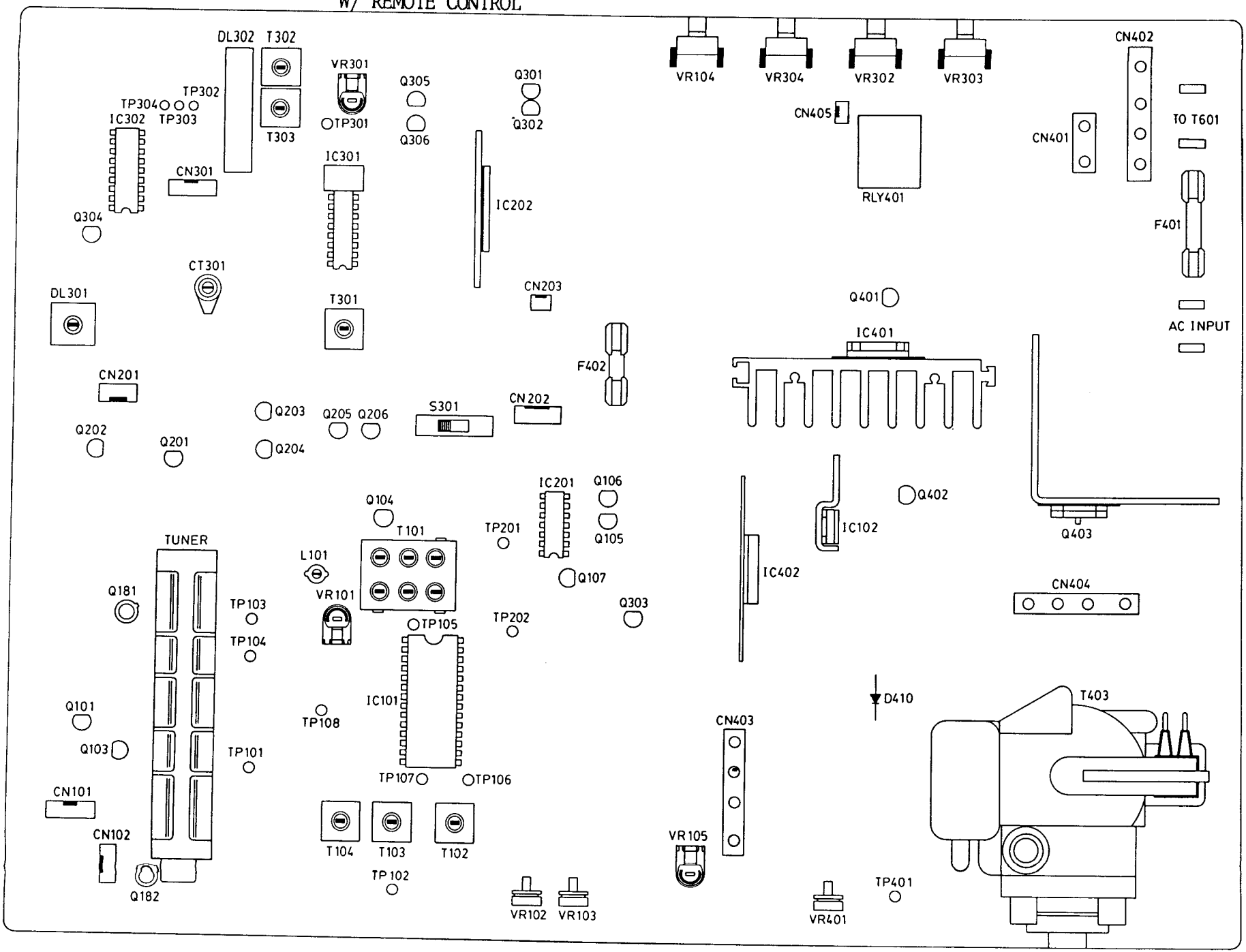


FIG.12

ALIGNMENT POINT OF CRT. BOARD



ALIGNMENT POINT OF K-3714(FTZ) W/ REMOTE CONTROL



VOLTAGE TABLE FOR TRANSISTOR

SYMBOL	B (V)	C (V)	E (V)	SYMBOL	B (V)	C (V)	E (V)
Q 101	0.00	17.3	GND	Q 301	0.59	0.89	GND
Q 103	0.65	0.00	GND	Q 302	2.00	GND	0.89
Q 104	3.14	11.7	2.52	Q 303	0.47	11.1	0.34
Q 105	4.75	7.64	4.12	Q 304	3.77	10.8	3.12
Q 106	7.64	11.7	7.00	Q 305	0.63	0.04	GND
Q 107	4.13	11.7	3.50	Q 306	0.04	11.7	0.00
Q 201 *	1.87	6.44	1.22	Q 401	0.60	0.25	GND
Q 202 *	6.52	11.7	5.88	Q 402	0.56	71.57	GND
Q 203 *	1.02	8.36	0.40	Q 403	0.00	112	GND
Q 204 *	8.33	11.7	7.73	Q 501	2.70	126.4	2.40
Q 205 *	1.60	11.7	1.00	Q 502	2.70	126.7	2.30
Q 206 *	0.68	2.00	GND	Q 503	2.70	126.8	2.30
VOLTAGE TABLE FOR MANUAL TRANSISTOR ONLY							
Q 102	4.10	33.4	3.60				
VOLTAGE TABLE FOR REMOTE TRANSISTOR ONLY							
Q 181	0.56	6.90	GND	Q 602	10.9	11.5	11.6
Q 182	26.6	111	26.1	Q 603	11.6	0.00	11.6
Q 801	0.00	7.60	0.00	Q 604	11.6	0.00	11.6
Q 802	0.00	7.57	GND	Q 605	26.0	0.00	26.1
Q 701	4.34	4.97	4.21	Q 606	0.72	0.00	GND
Q 601	1.33	8.25	0.72	Q 607	0.14	2.59	GND

NOTE : Voltage are taken under tuned condition with

CONTRAST : Maximum Position

BRIGHTNESS : Center Position

COLOR : Center Position

SIGNAL INPUT : 80 dB uV

CHANNEL SETTING : The Last Channel of UHF High

REMARKS : * OPTIONAL

VOLTAGE TABLE FOR IC

SYMBOL / PIN NO.	IC 101 (V)	IC 102 (V)	* IC 201 (V)	IC 202 (V)	IC 301 (V)	IC 302 (V)	IC 401 (V)	IC 402 (V)
1	4.76	16.2	2.52	10.9	5.06	1.29	87.8	GND
2	5.66	11.7	2.52	4.85	3.87	0.65	0.23	12.7
3	7.50	GND	2.52	0	4.46	9.49	267	25.6
4	5.01		1.00	2.60	7.31	8.03	0.08	1.40
5	3.15		0	10.9	7.05	0	80.4	0
6	6.46		0	11.1	6.94	1.63		1.04
7	3.04		GND	GND	0.37	3.16		25.3
8	3.04		5.87	12.0	2.26	3.14		
9	4.69		0.33	23.0	2.26	3.09		
10	4.69		0.33		9.44	GND		
11	2.46		0.33		9.42	8.76		
12	7.95		7.47		8.36	3.46		
13	3.62		7.47		2.98	8.80		
14	6.30		11.7		2.97	8.87		
15	6.31				0	3.46		
16	9.46				10.8	6.78		
17	1.96				GND	10.8		
18	5.32					10.6		
19	5.33							
20	9.38							
21	GND							
22	3.11							
23	0.83							
24	4.52							
25	0.52							
26	3.90							
27	0.41							
28	4.75							

NOTE : Voltage are taken under tuned condition with

CONTRAST	:	Maximum Position
BRIGHTNESS	:	Center Position
COLOR	:	Center Position
SIGNAL INPUT	:	80 dBuv
CHANNEL SETTING	:	The Last Channel of UHF High

REMAKR : * Optional

VOLTAGE TABLE FOR REMOTE IC ONLY

PIN NO. \ SYMBOL	IC 601 (V)	IC 602 (V)	IC 603 (V)	IC 701 (V)	IC 801 (V)
1	GND	11.4	11.6	4.22	9.00
2	0.00	5.00	0.10	4.23	8.14
3	26.0	GND	6.61	4.23	9.00
4	5.70		6.74	GND	8.99
5	2.59		5.82	0.91	8.99
6	NC		0.11	0.91	8.99
7	1.90		NC	0.91	8.99
8	1.87		NC	5.00	8.99
9	5.00		NC		0.00
10	GND		NC		0.00
11	2.00		0.44		0.00
12	0.10		0.49		0.00
13	0.11		0.00		0.00
14	0.24		GND		0.00
15	2.50				GND
16	NC				9.00
17	5.00				0.00
18	4.93				GND
19	4.93				0.00
20	4.92				9.00
21	0.18				
22	0.20				
23	0.20				
24	0.23				
25	5.00				
26	0.73				
27	4.69				
28	0.07				
29	0.07				
30	4.92				
31	5.00				
32	GND				
33	4.91				
34	4.91				
35	4.91				
36	4.90				
37	0.50				
38	GND				
39	11.6				
40	11.6				

NOTE : Voltage are taken under tuned condition with

CONTRAST : Maximum Position

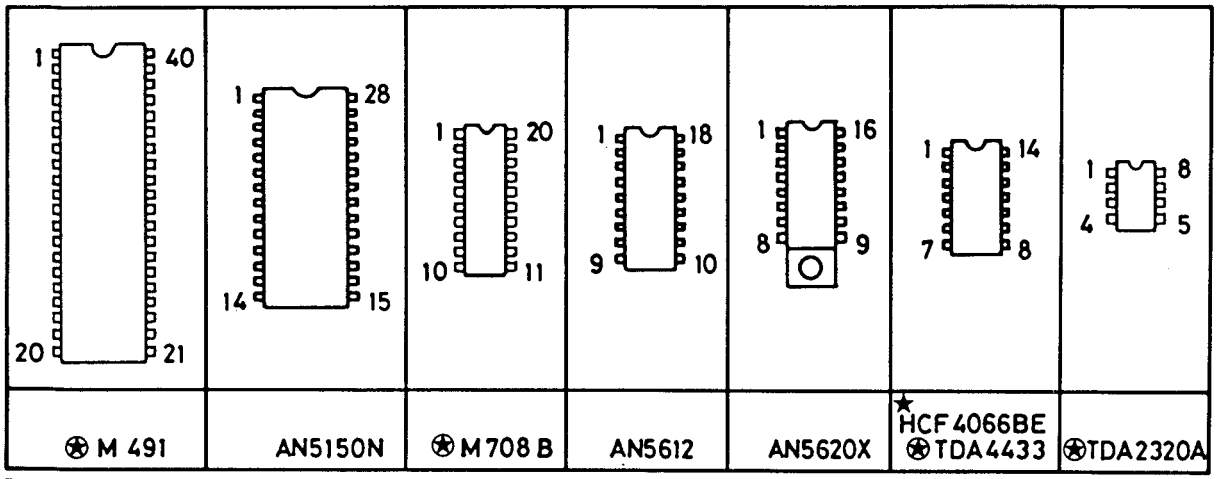
BRIGHTNESS : Center Position

COLOR : Center Position

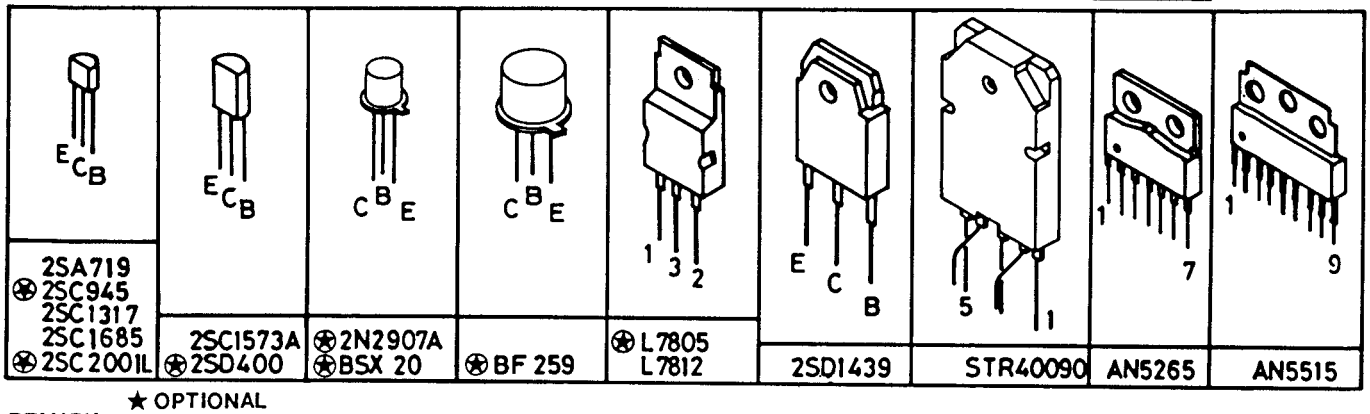
SIGNAL INPUT : 80 dBuV

CHANNEL SETTING : The Last Channel of UHF High

TRANSISTOR & IC IDENTIFY



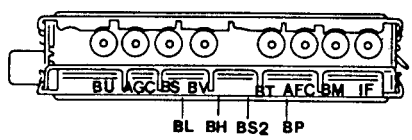
⊛ M 491	AN5150N	⊛ M708 B	AN5612	AN5620X	★ HCF4066BE ⊛ TDA4433	⊛ TDA2320A



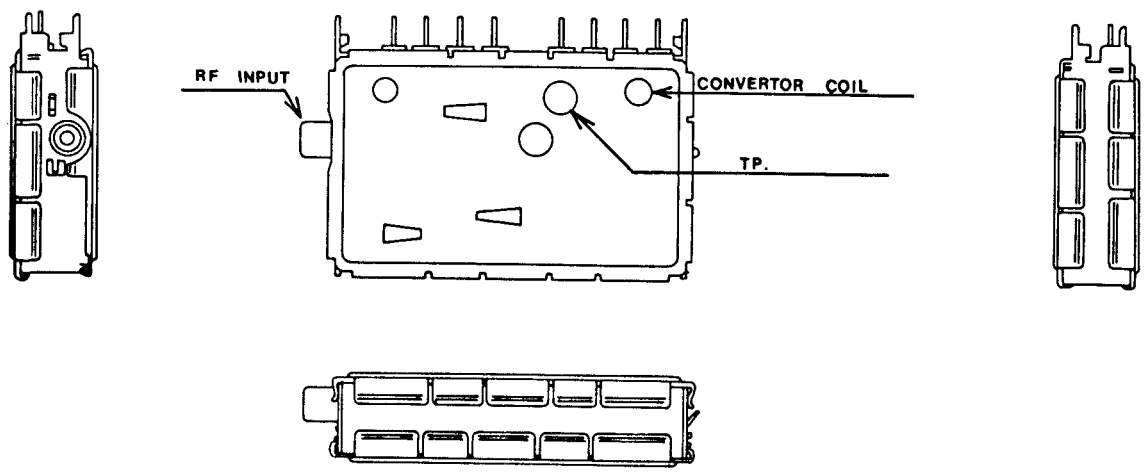
2SA719 ⊛ 2SC945 2SC1317 2SC1685 ⊛ 2SC2001L	2SC1573A ⊛ 2SD400	⊛ 2N2907A ⊛ BSX 20	⊛ BF 259	⊛ L7805 L7812	2SD1439	STR40090	AN5265	AN5515

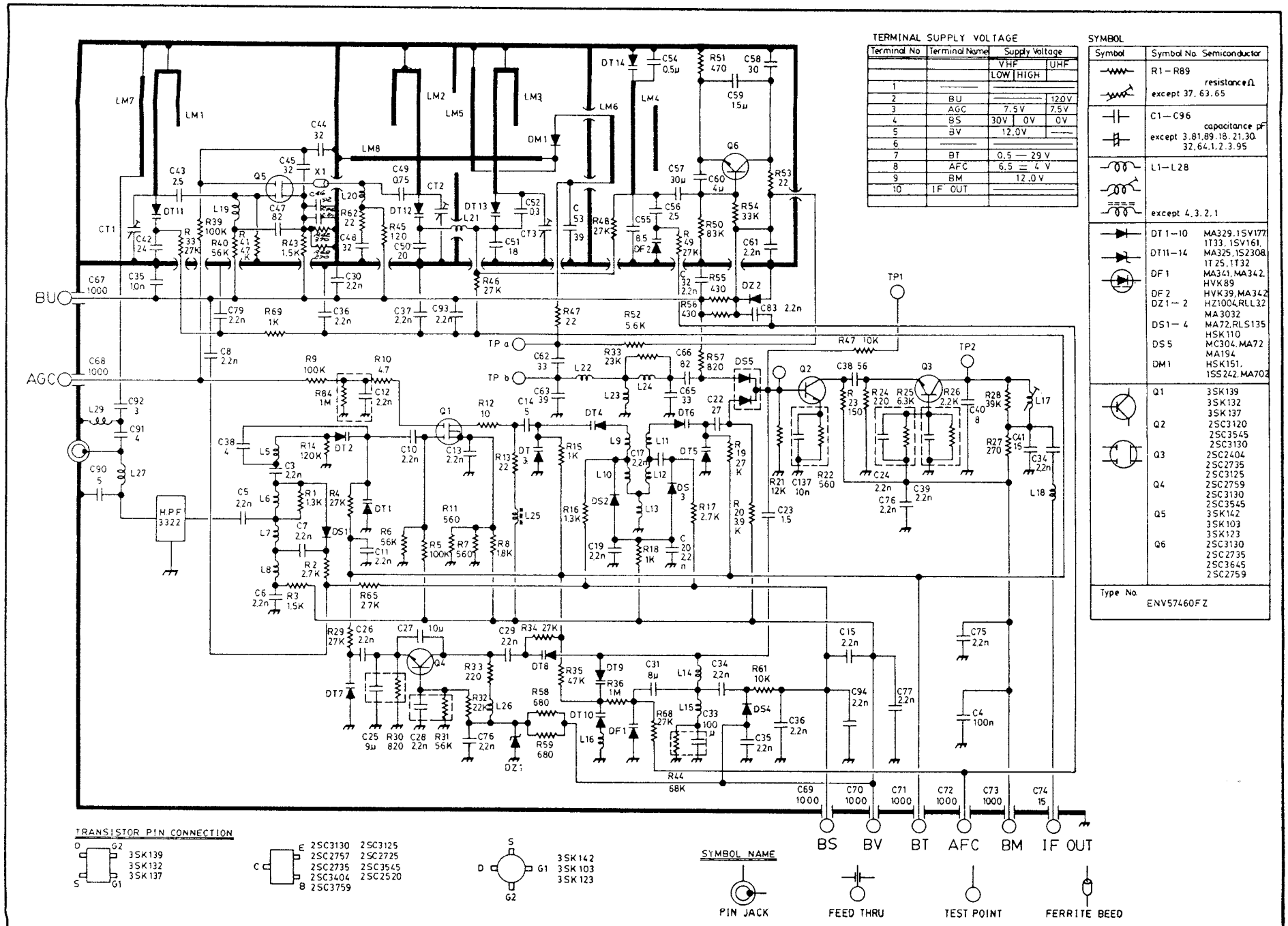
REMARK : ★ OPTIONAL
⊛ FOR REMOTE ONLY

ENV57460FZ



TERMINAL SUPPLY VOLTAGE				
Terminal No.	Terminal Name	Supply Voltage		
		VHF Low	VHF High	UHF
	BM	12.0		
	AFC	6.5±4.0		
	BT	1.0–29.0		
	BV	12.0		—
	BS	30	0	0
	AGC	7.5		
	BU	—		12.0





TERMINAL SUPPLY VOLTAGE

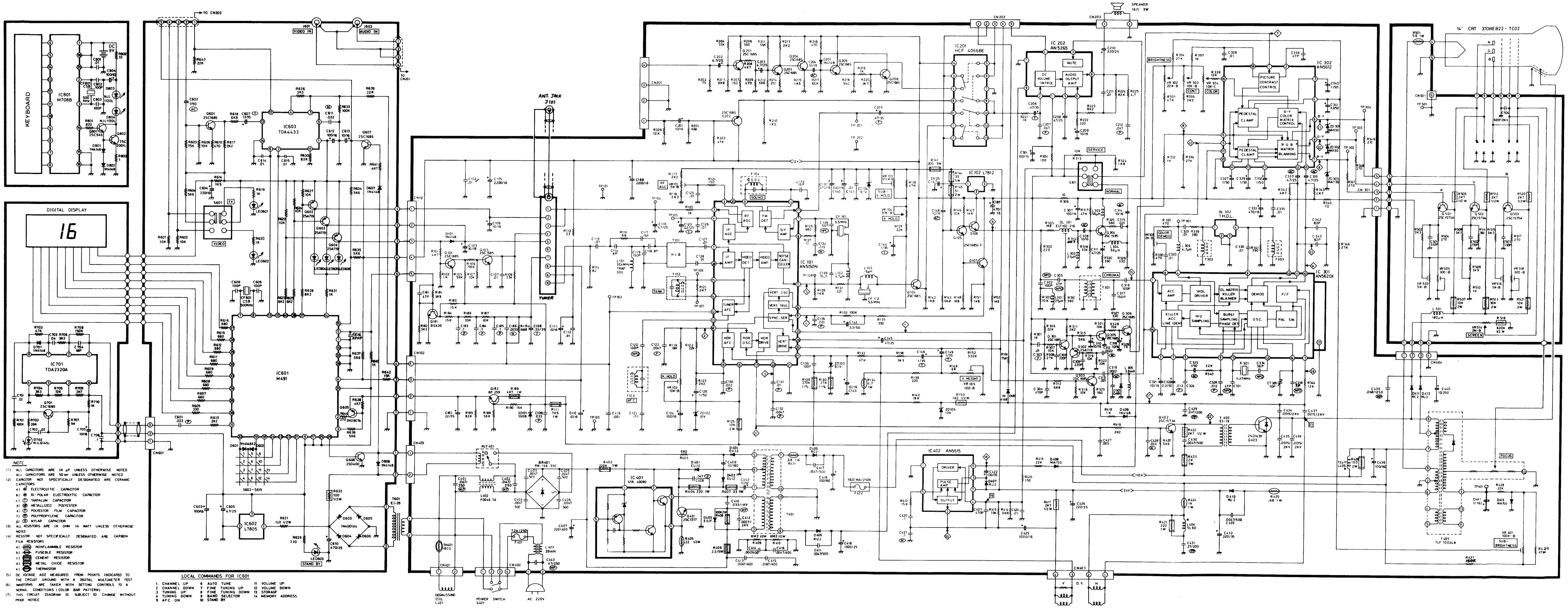
Terminal No	Terminal Name	Supply Voltage		
		VHF		UHF
		LOW	HIGH	
1				
2	BU			12.0V
3	AGC	7.5V		7.5V
4	BS	30V	0V	0V
5	BV	12.0V		
6				
7	BT	0.5 — 29 V		
8	AFC	6.5 ≡ 4 V		
9	BM	12.0 V		
10	IF OUT			

SYMBOL

Symbol	Symbol No. Semiconductor
	R1 — R89 resistance Ω except 37. 63. 65
	C1 — C96 capacitance pF except 3. 81. 89. 18. 21. 30. 32. 64. 1. 2. 3. 95
	L1 — L28 except 4. 3. 2. 1
	DT 1 — 10 MA329. 1SV177 1T33. 1SV161.
	DT11 — 14 MA325. 1S2308. 1T25. 1T32
	DF 1 MA341. MA342. HVK89
	DF 2 HVK39. MA342
	DZ 1 — 2 HZ1004. RLL32 MA3032
	DS 1 — 4 MA72. RLS135 HSK110
	DS 5 MC304. MA72 MA194
	DM 1 HSK151. 1SS242. MA702
	Q1 3SK139 3SK132 3SK137
	Q2 2SC3120 2SC3545 2SC3130
	Q3 2SC2404 2SC2735 2SC3125
	Q4 2SC2759 2SC3130 2SC3545
	Q5 3SK142 3SK103 3SK123
	Q6 2SC3130 2SC2735 2SC3545 2SC2759

Type No.
ENV57460FZ

Schematic Diagram for System PAL-B/G (FTZ)   W/Remote Control



NOTE

(1) ALL CAPACITORS ARE IN μF UNLESS OTHERWISE NOTED
ALL CAPACITORS ARE 50 wv UNLESS OTHERWISE NOTED

(2) CAPACITOR NOT SPECIFICALLY DESIGNATED ARE CERAMIC CAPACITORS
- a) ELECTROLYTIC CAPACITOR
- b) BI-POLAR ELECTROLYTIC CAPACITOR
- c) Ⓣ TANTALUM CAPACITOR
- d) Ⓜ︎Ⓟ METALLIZED POLYESTER
- e) Ⓟ POLYESTOR FILM CAPACITOR
- f) ⓅⓅ POLYPROPYLENE CAPACITOR
- g) Ⓜ MYLAR CAPACITOR

(3) ALL RESISTORS ARE IN OHM 1/4 WATT UNLESS OTHERWISE NOTED

(4) RESISTOR NOT SPECIFICALLY DESIGNATED ARE CARBON FILM RESISTORS
- a) NONFLAMMBLE RESISTOR
- b) FUSEBLE RESISTOR
- c) CEMENT RESISTOR
- d) METAL OXIDE RESISTOR
- e) THERMISTOR

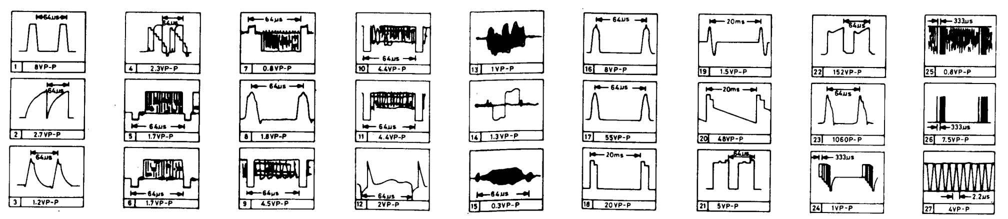
(5) DC VOLTAGE AGE MEASURED FROM POINTS INDICATED TO THE CIRCUIT GROUND WITH A DIGITAL MULTIMETER TEST

(6) WAVEFORMS ARE TAKEN WITH SETTING CONTROLS TO A NORMAL CONDITIONS (COLOR BAR PATTERN).

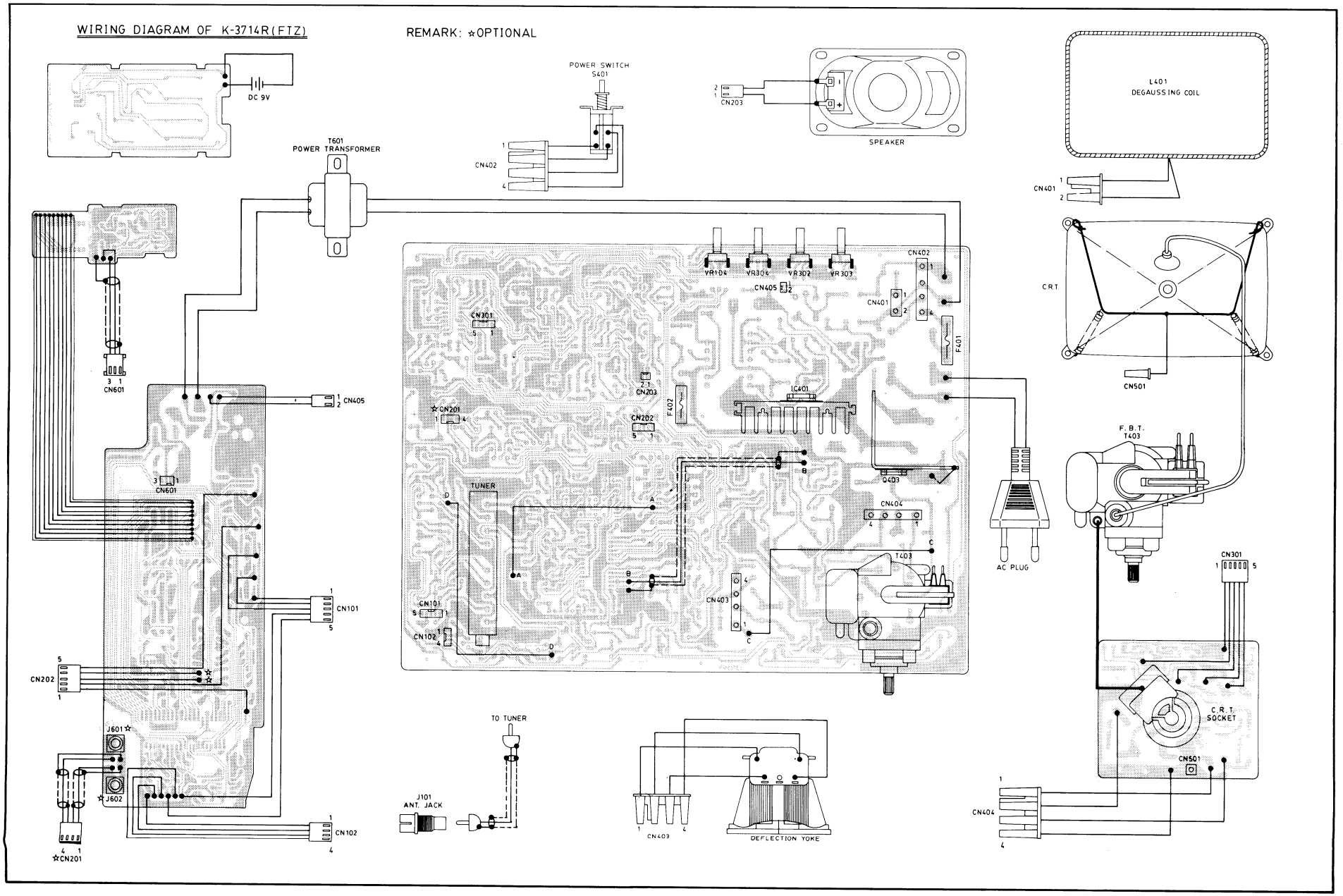
(7) THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

LOCAL COMMANDS FOR IC601

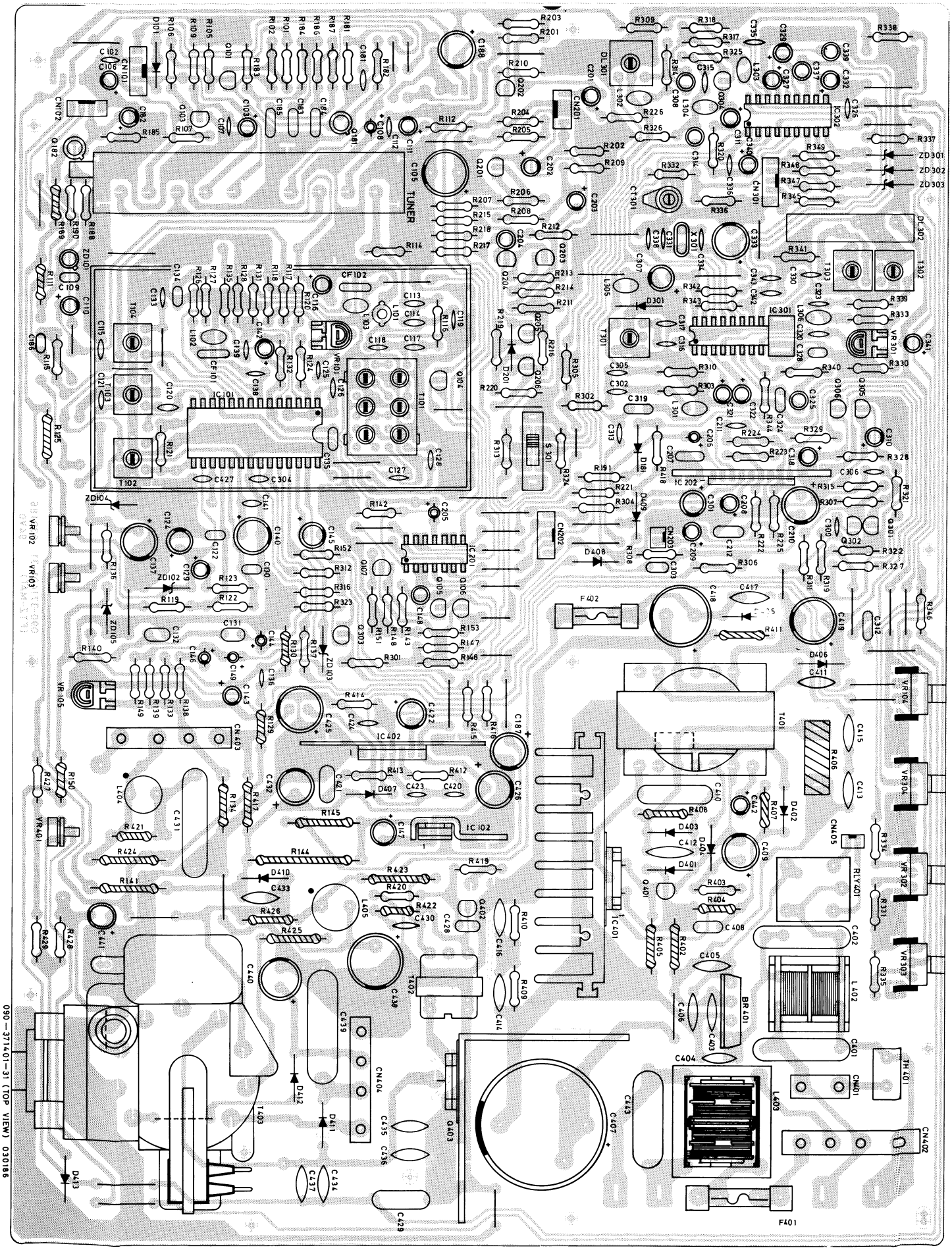
1. CHANNEL UP
2. CHANNEL DOWN
3. TUNING UP
4. TUNING DOWN
5. AFC ON
6. AUTO TUNE
7. FINE TUNING UP
8. FINE TUNING DOWN
9. BAND SELECTOR
10. STAND BY
11. VOLUME UP
12. VOLUME DOWN
13. STORAGF
14. MEMORY ADDRESS



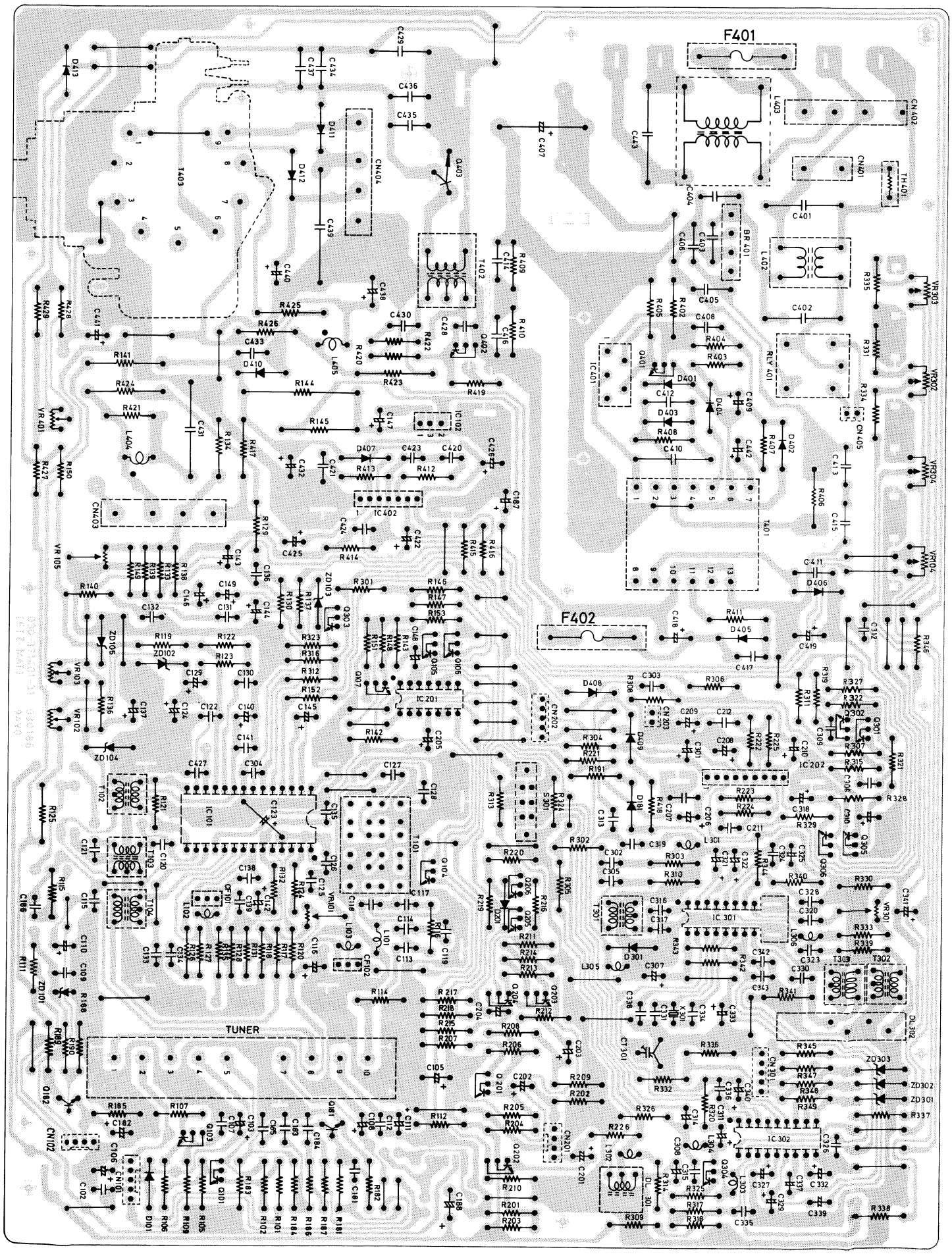
KONG WAH VIDEO ENGINEERING LTD.	
TITLE SCHEMATIC DIAGRAM	
MODEL: K-3714	SYSTEM: FTZ
DRAW NO: 3714-13	COUNTRY: W. GERMANY
DATE: 8-1-86	REV NO: A(7-8-86)
DRAWN:	CHECKED: / APPRD:


WIRING DIAGRAM OF K-3714R(FTZ)
REMARK: ☆OPTIONAL
DC 9V
POWER SWITCH
S401
CN402
CN203
SPEAKER
L401
DEGAUSSING COIL
CN401
T601
POWER TRANSFORMER
CN601
CN405
CN101
CN202
J601☆
J602☆
☆CN201
CN102
TO TUNER
J101
ANT. JACK
CN403
DEFLECTION YOKE
VR104
VR304
VR302
VR303
CN301
CN203
CN202
F402
IC401
F401
TUNER
Q403
CN404
T403
AC PLUG
C.R.T.
CN501
F.B.T.
T403
C.R.T.
SOCKET

Component Diagram of Main Board (Top View) for Remote

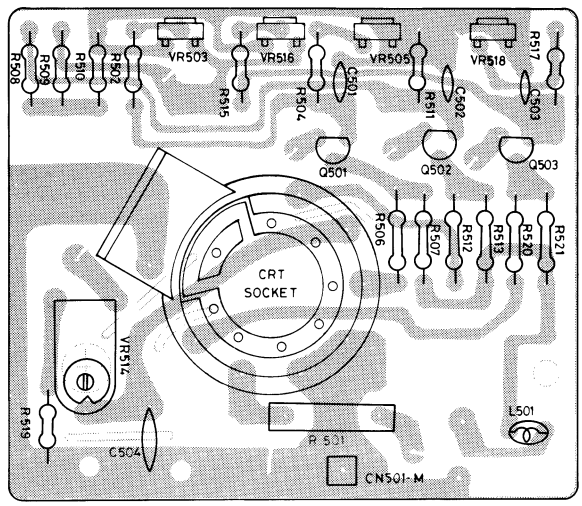


Component Diagram of Main Board (Bottom View) for Remote

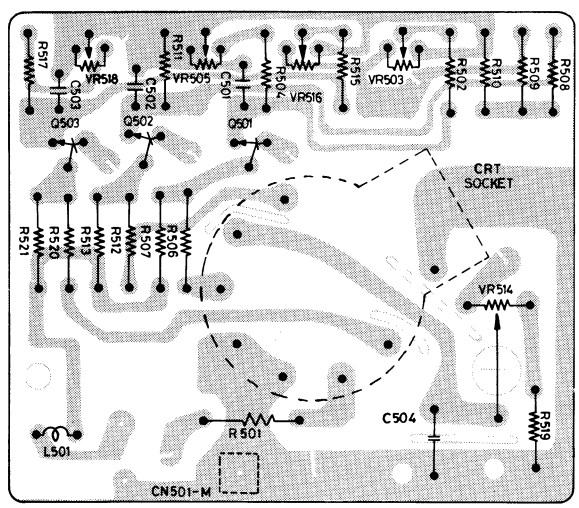


Component Diagram of CRT. Board

(Top View)

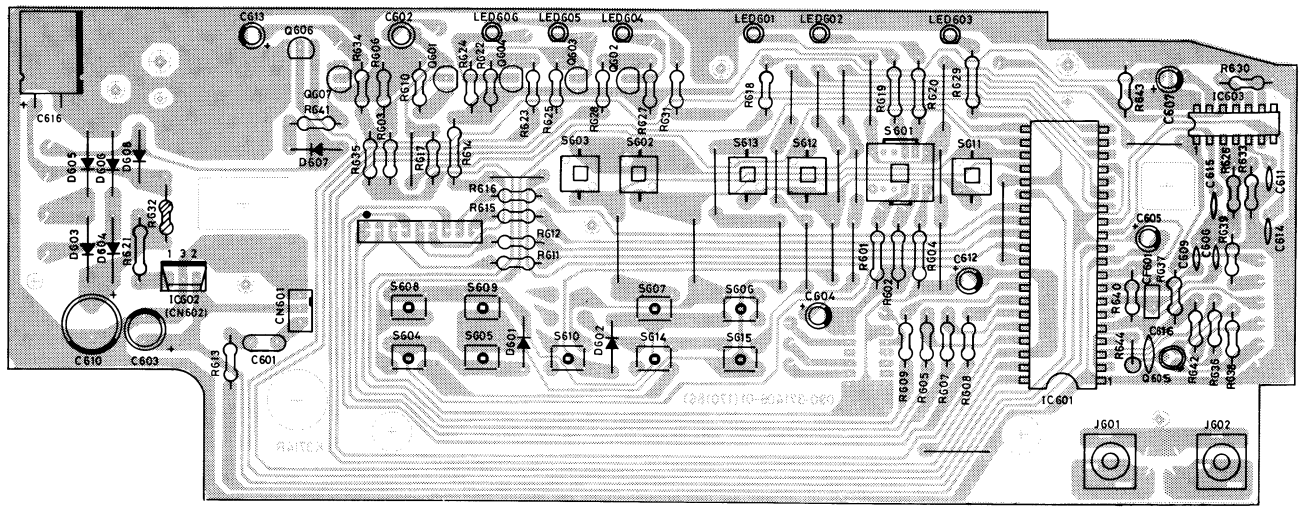


(Bottom View)

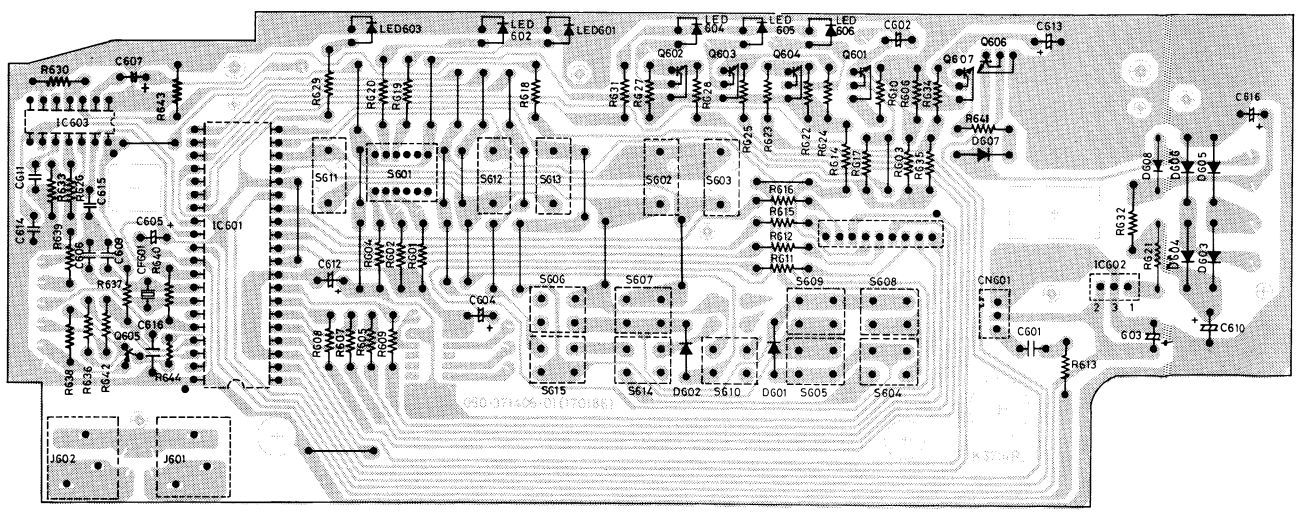


Component Diagram of 'R' Panel

(Top View)



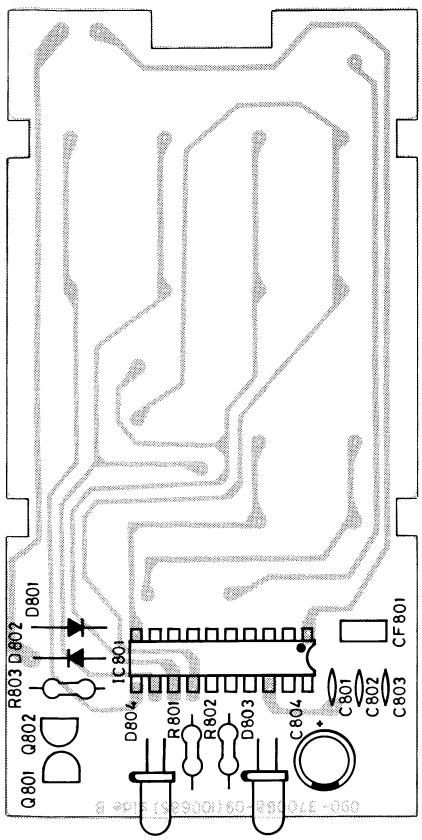
(Bottom View)



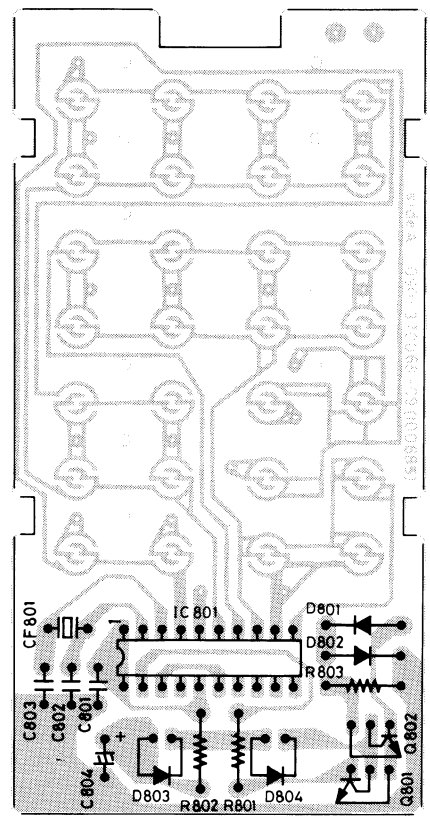
Component Diagram

Remote Handset Board

(Top View)

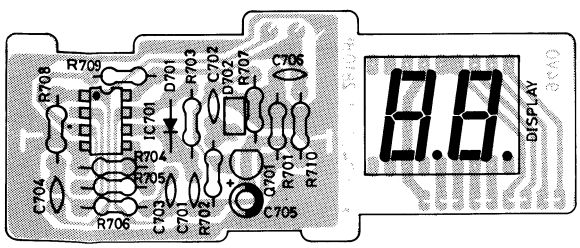


(Bottom View)

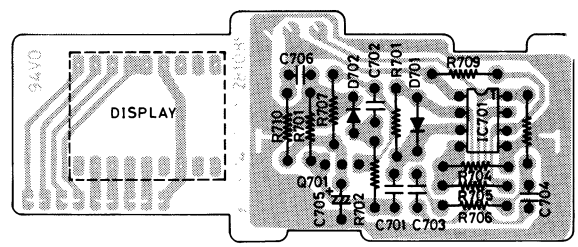


Sensor Board

(Top View)



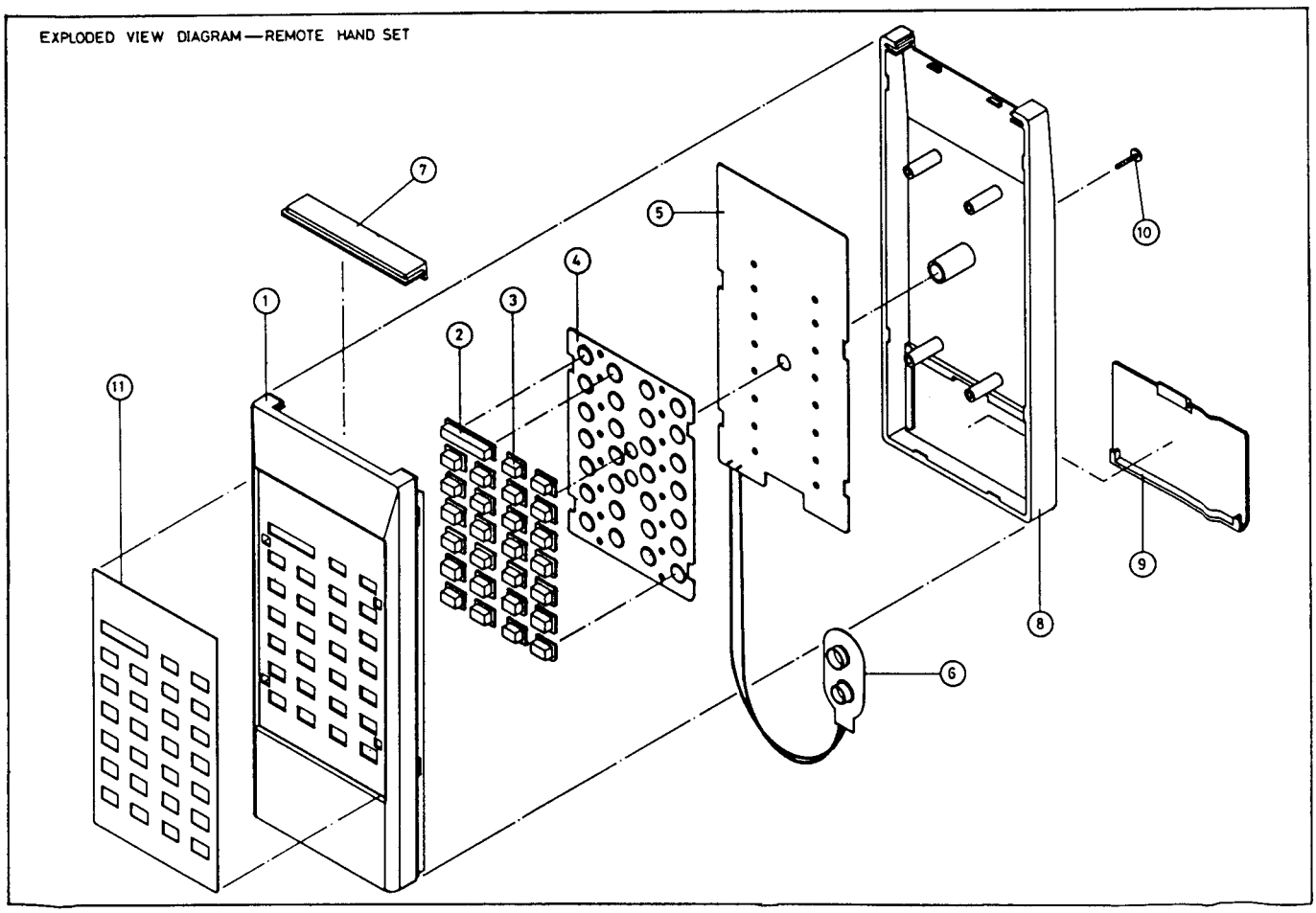
(Bottom View)



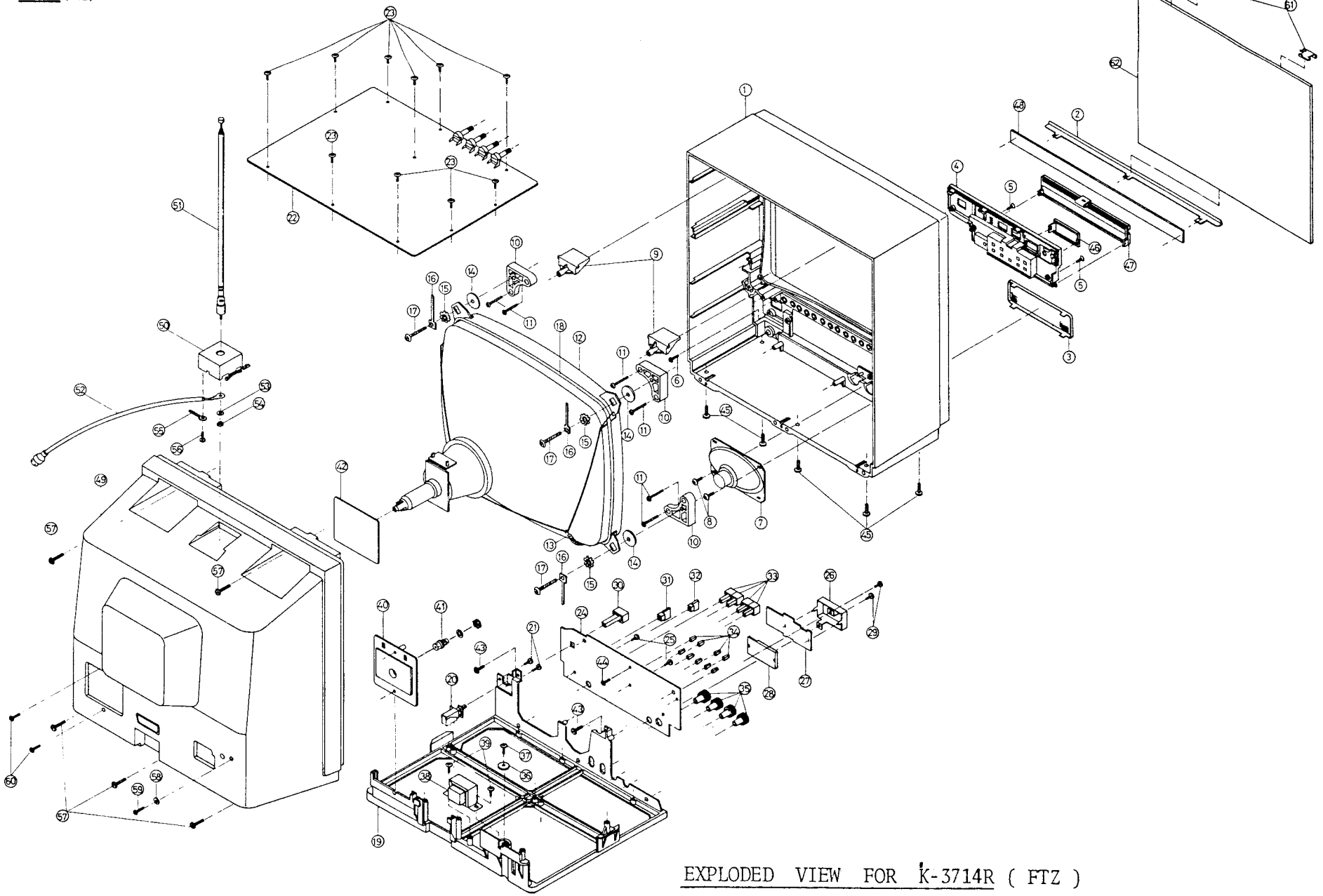
REMOTE HANDSET

EXPLODED VIEW PARTS LIST :

REF. NO.	PARTS NO.	DESCRIPTION	QTY.
1	201-370001-01	CABINET TOP	1
2.	292-370001-01	POWER KNOB	1
3	277-370001-01	CHANNEL KNOB	26
4	334-370001-01	CONDUCTIVE RUBBER	1
5		P.C.BOARD ASS'Y	1
6	710-114000-00	BATTERY CLIP (9V)	1
7	263-370002-01	FRONT LENS	1
8	203-370001-01	CABINET BOTTOM	1
9	210-370001-01	BATTERY COVER	1
10	610-260108-10	SELF-TAPPING SCREW R/T 2.6 x 8mm	1
11	411-370001-XX	NAME PLATE	1



K-3714R (FTZ)



EXPLODED VIEW FOR K-3714R (FTZ)

MODEL K-3714R (FTZ)

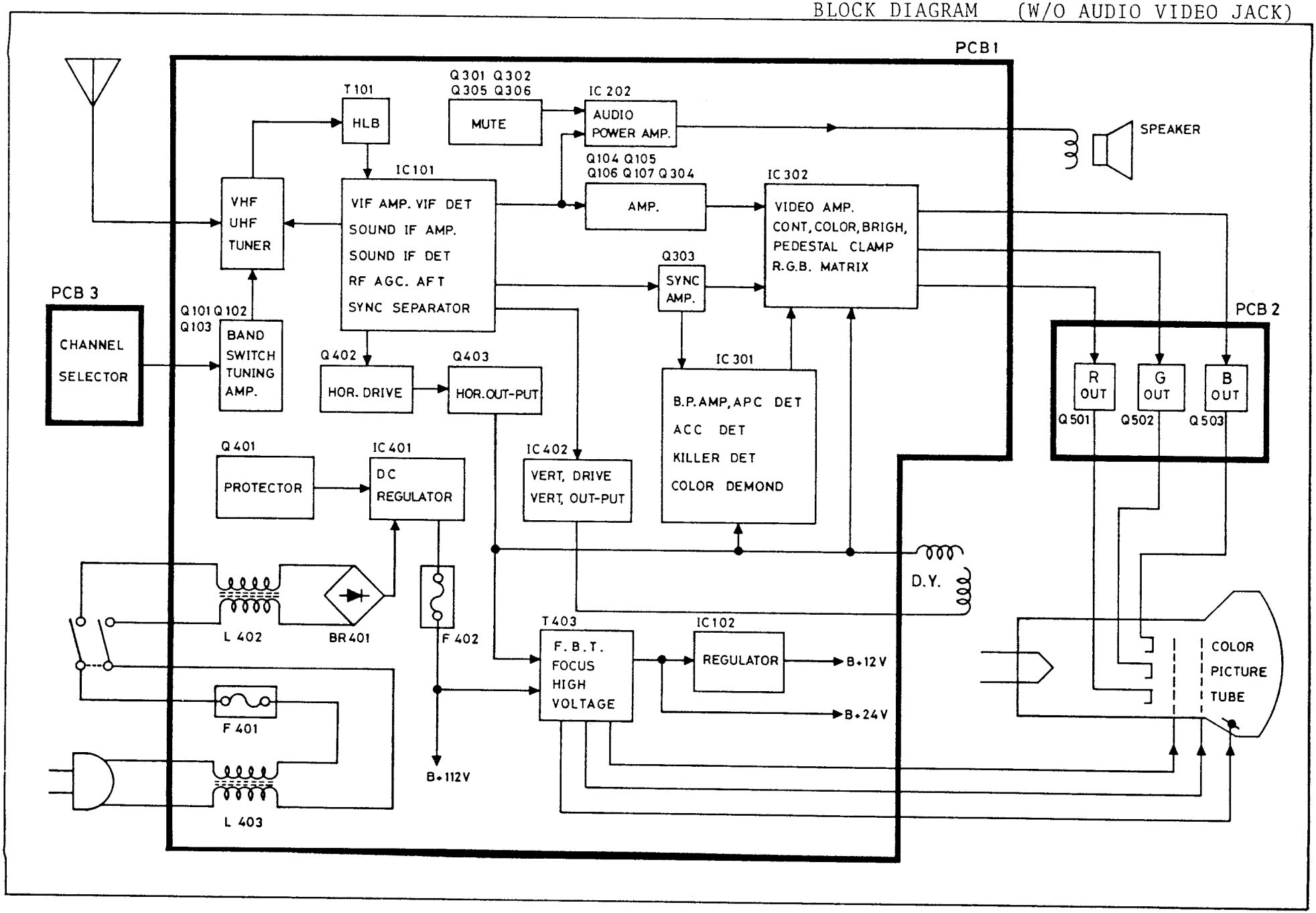
EXPLODED VIEW PARTS LIST

REF. NO.	PARTS NO.	DESCRIPTION	Qty.
1.	200-371401-01	CABINET FRONT	1
2.	469-371401-01	GLASS SUPPORTER	1
3.	403-371401-01	SPEAKER GRILL	1
4.	230-371403-01	FRONT PANEL 'C'	1
5.	611-300210-10	SELF-TAPPING SCREW K/T 3.0 x 10mm	2
6.	610-260108-10	SELF-TAPPING SCREW R/T 2.6 x 8mm	1
7.	066-762000-06	SPEAKER	1
8.	612-300210-10	SELF-TAPPING SCREW W/T 3.0 x 10mm	2
9.	229-370101-01	PLASTIC BRACKET	2
10.	259-371403-01	PAL CRT MTG. BRACKET	4
11.	614-400416-10	SELF-TAPPING SCREW B/T 4.0 x 16mm	8
12.	102-214001-11	COLOR PICTURE TUBE	1
13.	477-371601-01	CRT SPRING	2
14.	334-371601-01	RUBBER RING	4
15.	437-371601-01	PICTURE TUBE WASHER	4
16.	469-371601-01	DEGAUSSING COIL CLAMPER	4
17.	614-500238-10	SELF-TAPPING SCREW B/T 5.0 x 38mm	4
18.		DEGAUSSING COIL	1
19.	220-371401-01	CHASSIS BRACKET	1
20.	046-100001-01	POWER SWITCH	1
21.	600-305006-10	MACHINE SCREW P/H 3.0 x 6mm	2
22.		MAIN P.C.BOARD ASS'Y	1
23.	612-300210-10	SELF-TAPPING SCREW W/T 3.0 x 10mm	10
24.		FRONT CONTROL P.C.BOARD ASS'Y	1
25.	610-300108-10	SELF-TAPPING SCREW R/T 3.0 x 8mm	2
26.	483-371401-01	SHIELD BOX TOP	1
27.		REMOTE RECEIVE P.C.BOARD ASS'Y	1
28.	483-371402-01	SHIELD BOX BOTTOM	1
29.	610-300108-10	SELF-TAPPING SCREW R/T 3.0 x 8mm	2
30.	292-371404-01	POWER KNOB	1
31.	292-371403-01	STAND BY KNOB	1

EXPLODED VIEW PARTS LIST

REF. NO.	PARTS NO.	DESCRIPTION	Qty.
32.	292-371401-01	TV / VIDEO KNOB	1
33.	277-371402-01	VOLUME / CHANNEL KNOB 'B'	4
34.	292-371405-01	PRESET CONTROL KNOB	9
35.	292-371402-01	TV CONTROL KNOB	4
36.	530-140033-16	FIBER WASHER	1
37.	612-300210-10	SELF-TAPPING SCREW W/T 3.0 x 10mm	1
38.	001-353714-XX	POWER TRANSF. EI-35	1
39.	612-300210-10	SELF-TAPPING SCREW W/T 3.0 x 10mm	2
40.	280-371602-01	JACK PLATE	1
41.	061-480004-00	ANT. SOCKET W/NUT & WAHSER	1
42.		CRT P.C.BOARD ASS'Y	1
43.	614-400416-10	SELF-TAPPING SCREW B/T 4.0 x 16mm	2
44.	610-300108-10	SELF-TAPPING SCREW R/T 3.0 x 8mm	1
45.	614-400412-10	SELF-TAPPING SCREW B/T 4.0 x 12mm	5
46.	263-371401-01	CABINET FRONT LENS	1
47.	219-371401-01	PANEL DOOR	1
48.	266-371401-XX	CHANNEL LENS	1
49.	202-371401-01	CABINET BACK	1
50.	259-371301-01	1 ROD ANT. HOLDER 'A'	1
51.	482-407278-01	ROD ANT. 4 SECTION 7 x 278mm SWIVEL	1
52.		75 OHM PARALLED CABLE	1
53.	631-085042-45	INTERNAL TOOTH WASHER	1
54.	620-407030-70	STEEL NUT M4	1
55.	451-371601-01	WIRE DRESS	1
56.	610-300108-10	SELF-TAPPING SCREW R/T 3.0 x 8mm	1
57.	614-400416-10	SELF-TAPPING SCREW B/T 4.0 x 16mm	5
58.	634-140033-10	METAL WASHER 14 x 3.3 x 1.0mm THK.	1
59.	600-305012-10	MACHINE SCREW P/H 3.0 x 12mm	1
60.	610-300110-00	SELF-TAPPING SCREW R/T 3.0 x 10mm 'BLACK'	2
61.	259-371402-01	GLASS HOLDER	2
62.	581-371401-01	FRONT GLASS	1

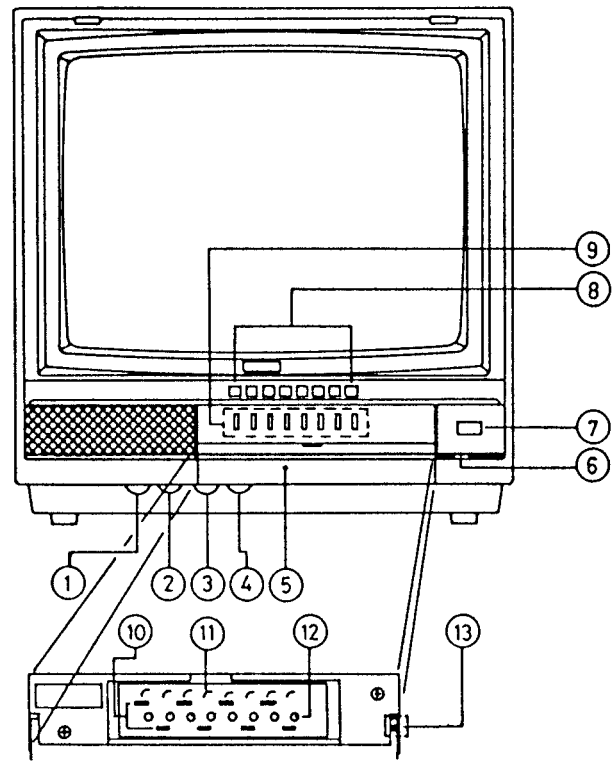
BLOCK DIAGRAM (W/O AUDIO VIDEO JACK)



CONTROL LOCATION

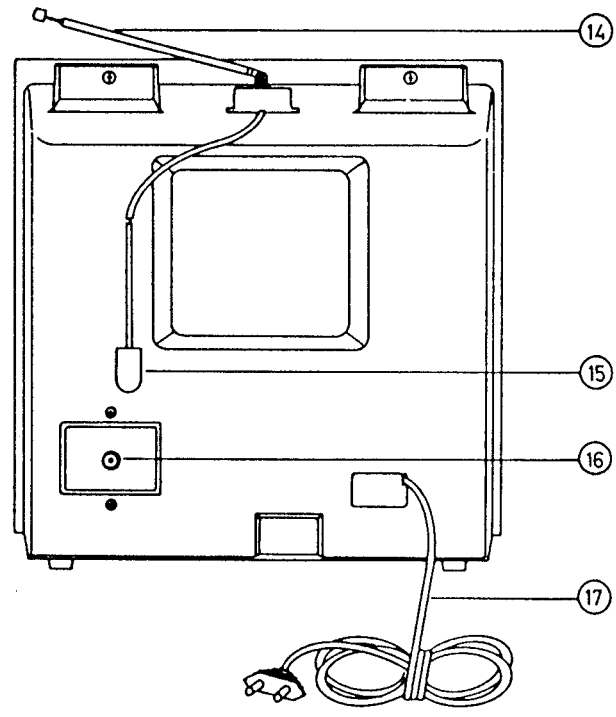
FRONT VIEW OF UNIT :

1. Contrast Control
2. Brightness Control
3. Color Control
4. Vertical Hold Control
5. Pre-Set Tuning Compartment Cover
6. Volume Control
7. Power ON/OFF Switch
8. Channel Indicator
9. Channel Selector
10. Pre-Set Tuning Controls
11. Band Selector
12. Channel Pointer
13. AFC Switch

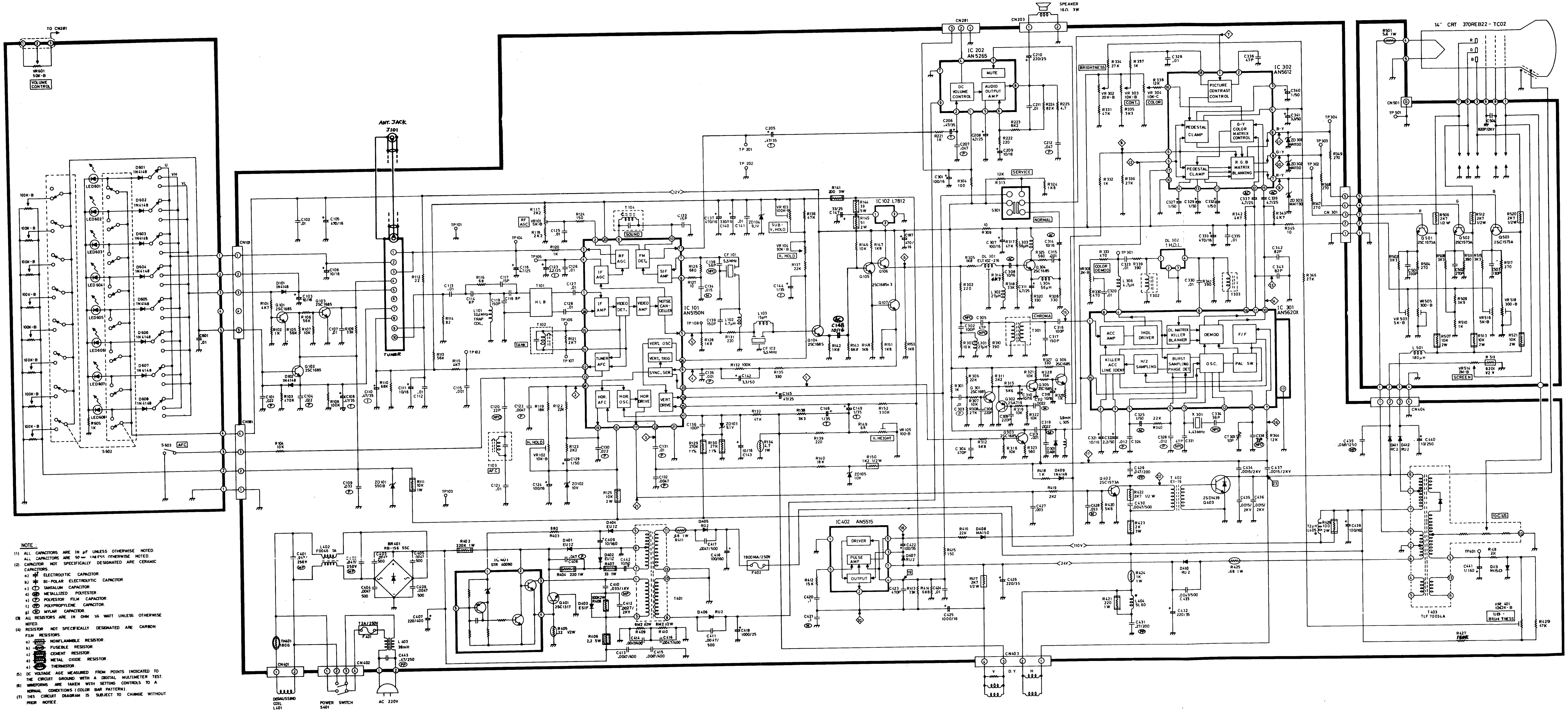


REAR VIEW OF UNIT :

14. Telescopic Antenna
15. Telescopic Antenna Connector
16. Antenna Input Socket (75 Ohm)
17. AC Power Cord



Schematic Diagram for System PAL-B/G (FTZ) Manual (W/O Audio, Video in Jack)



NOTE :

(1) ALL CAPACITORS ARE IN μF UNLESS OTHERWISE NOTED. ALL CAPACITORS ARE 50 WV UNLESS OTHERWISE NOTED.

(2) CAPACITOR NOT SPECIFICALLY DESIGNATED ARE CERAMIC CAPACITORS.
- a.) ELECTROLYTIC CAPACITOR.
- b.) BI-POLAR ELECTROLYTIC CAPACITOR.
- c.) (T) TANTALUM CAPACITOR.
- d.) (MP) METALLIZED POLYESTER.
- e.) (P) POLYESTOR FILM CAPACITOR.
- f.) (PP) POLYPROPYLENE CAPACITOR.
- g.) (M) MYLAR CAPACITOR.

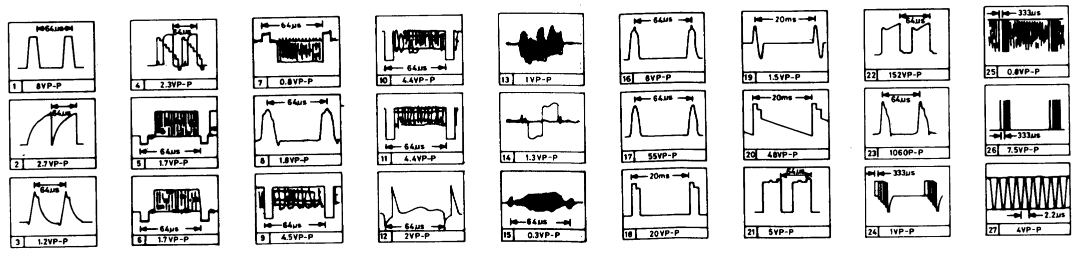
(3) ALL RESISTORS ARE IN OHM 1/4 WATT UNLESS OTHERWISE NOTED.

(4) RESISTOR NOT SPECIFICALLY DESIGNATED ARE CARBON FILM RESISTORS.
- a.) NONFLAMMBLE RESISTOR.
- b.) FUSEBLE RESISTOR.
- c.) CEMENT RESISTOR.
- d.) METAL OXIDE RESISTOR.
- e.) THERMISTOR.

(5) DC VOLTAGE AGE MEASURED FROM POINTS INDICATED TO THE CIRCUIT GROUND WITH A DIGITAL MULTIMETER TEST.

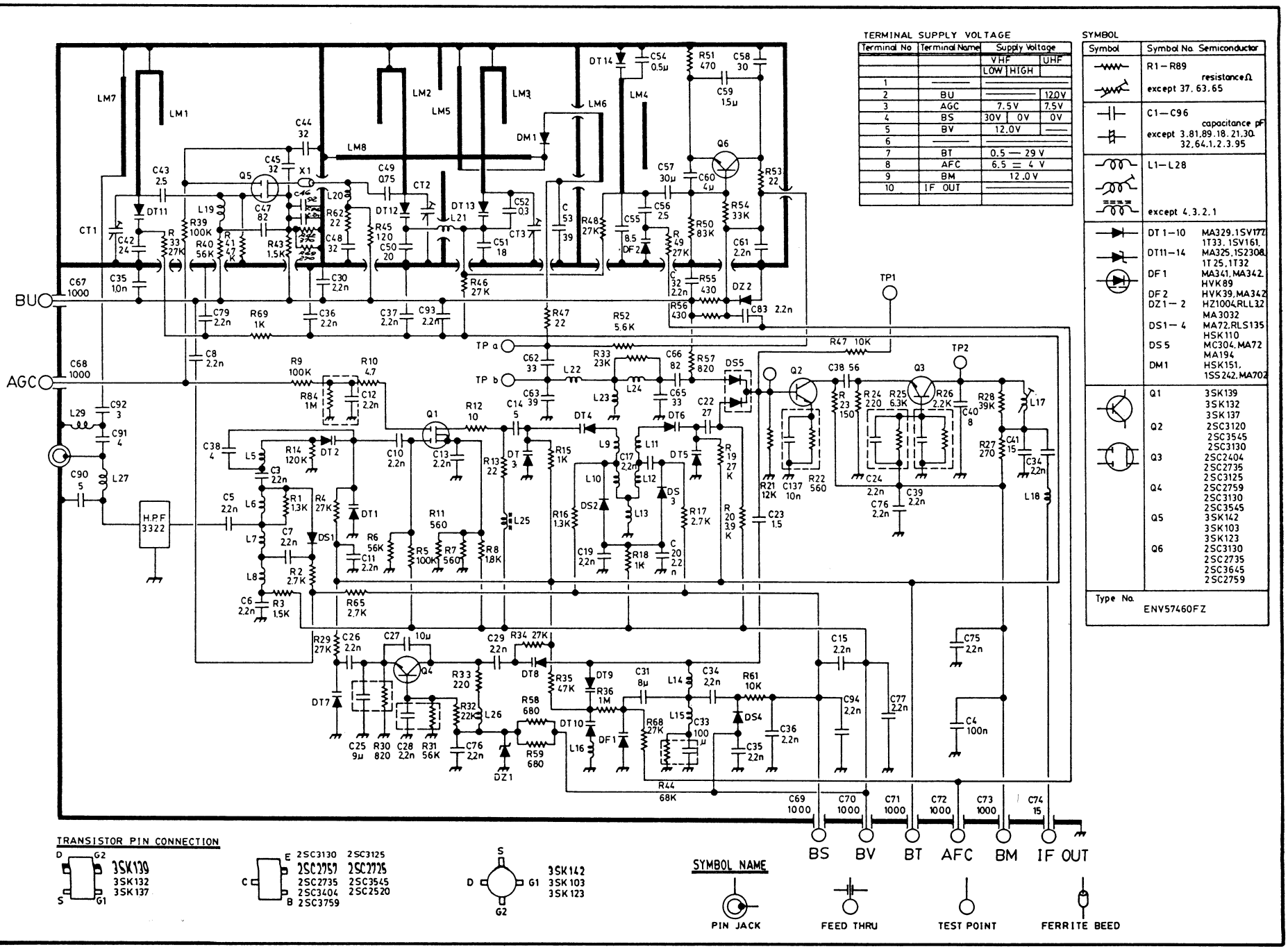
(6) WAVEFORMS ARE TAKEN WITH SETTING CONTROLS TO A NORMAL CONDITIONS (COLOR BAR PATTERN).

(7) THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.



KONG WAH VIDEO ENGINEERING LTD.		
TITLE: SCHEMATIC DIAGRAM		
MODEL: K-373 4	SYSTEM: FTZ	
DRAW NO: 3734-13	COUNTRY: W. GERMANY	
DATE: 8-1-[illegible]	REV NO: A(7-6-8[illegible]	
DRAWN:	CHECKED:	APPRD:

SCHEMATIC DIAGRAM OF TUNER FOR SYSTEM PAL-B/G(FTZ) * ENV57460F2 *



TERMINAL SUPPLY VOLTAGE

Terminal No.	Terminal Name	Supply Voltage		
		VHF		UHF
		LOW	HIGH	
1	——	——		——
2	BU	——		12.0V
3	AGC	7.5V		7.5V
4	BS	30V	0V	0V
5	BV	12.0V		——
6	——	——		——
7	BT	0.5 — 29 V		
8	AFC	6.5 = 4 V		
9	BM	12.0 V		
10	IF OUT	——		

SYMBOL

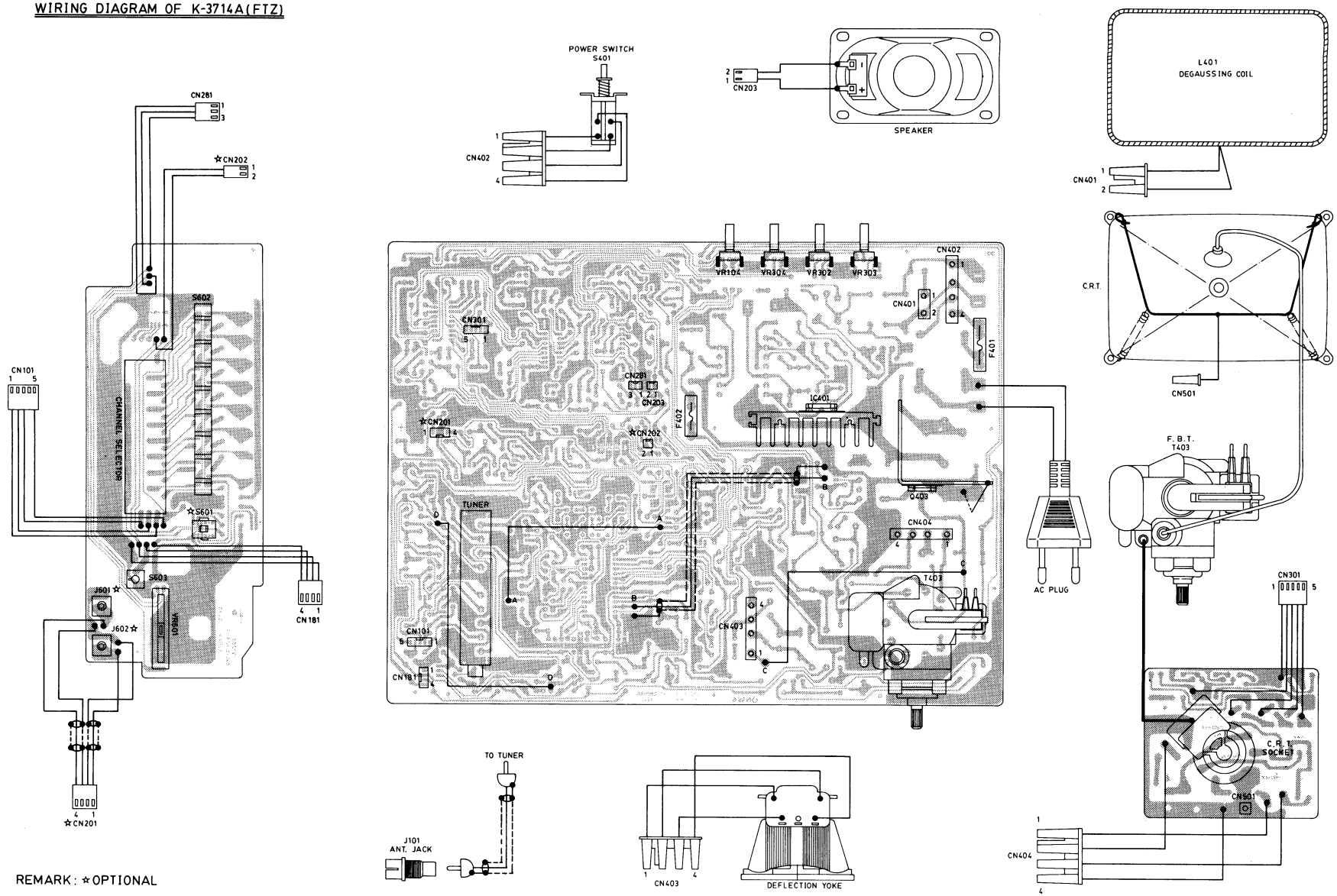
Symbol	Symbol No. Semiconductor
	R1 — R89 resistance Ω except 37. 63. 65
	C1 — C96 capacitance pF except 3. 81. 89. 18. 21. 30. 32. 64. 1. 2. 3. 95
	L1 — L28 except 4. 3. 2. 1
	DT 1 — 10 MA329. 1SV177 1T33. 1SV161.
	DT11 — 14 MA325. 1S2308. 1T 25. 1T32
	DF 1 MA341. MA342. HVK89
	DF 2 HVK39. MA342
	DZ 1 — 2 HZ1004. RLL32 MA3032
	DS 1 — 4 MA72. RLS135 HSK110
	DS 5 MC304. MA72 MA194
	DM 1 HSK151. 1SS242. MA702
	Q1 3SK139 3SK132 3SK137
	Q2 2SC3120 2SC3545 2SC3130
	Q3 2SC2404 2SC2735 2SC3125
	Q4 2SC2759 2SC3130 2SC3545
	Q5 3SK142 3SK103 3SK123
	Q6 2SC3130 2SC2735 2SC3645 2SC2759

Type No. ENV57460FZ

TRANSISTOR PIN CONNECTION

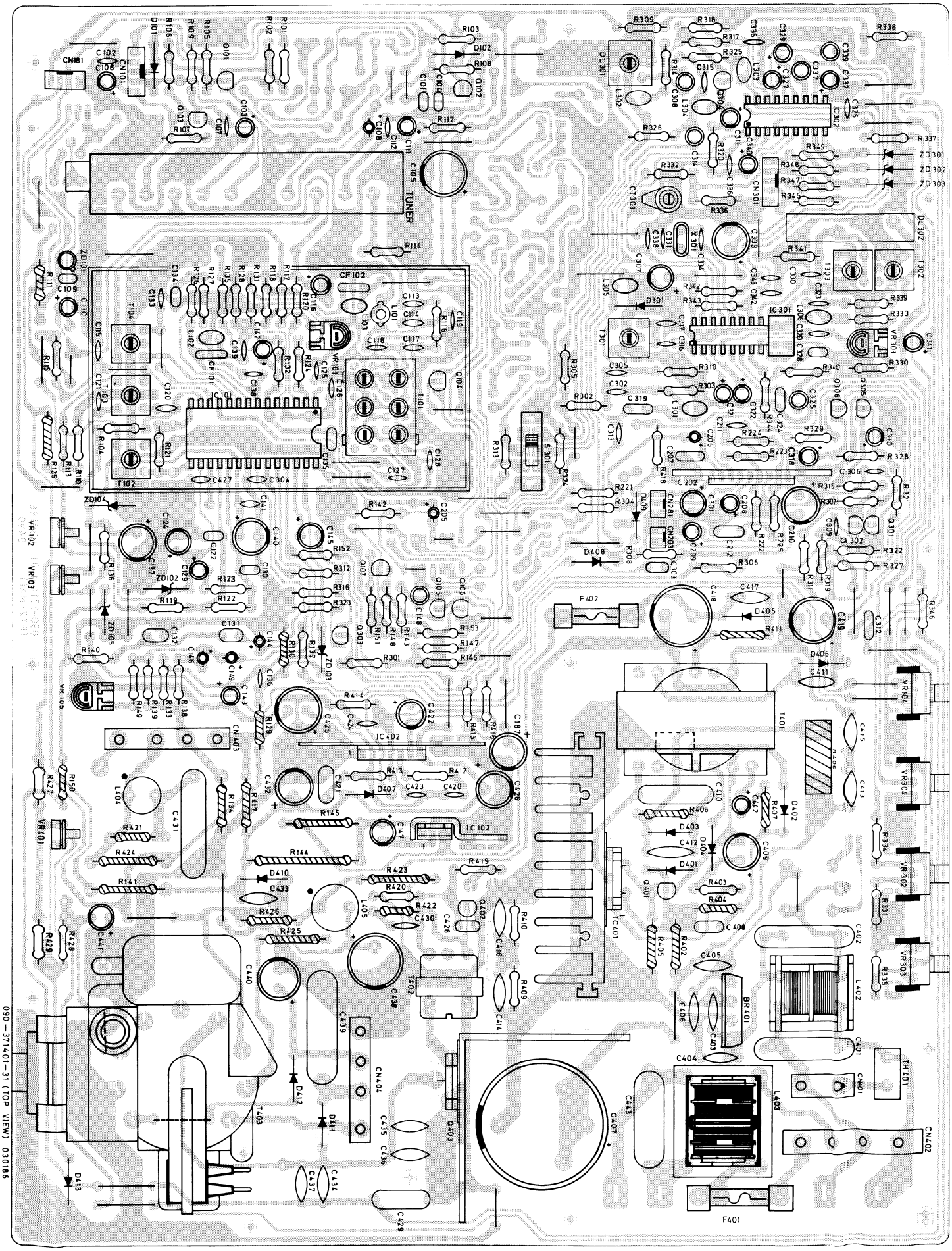
SYMBOL NAME

WIRING DIAGRAM OF K-3714A(FTZ)

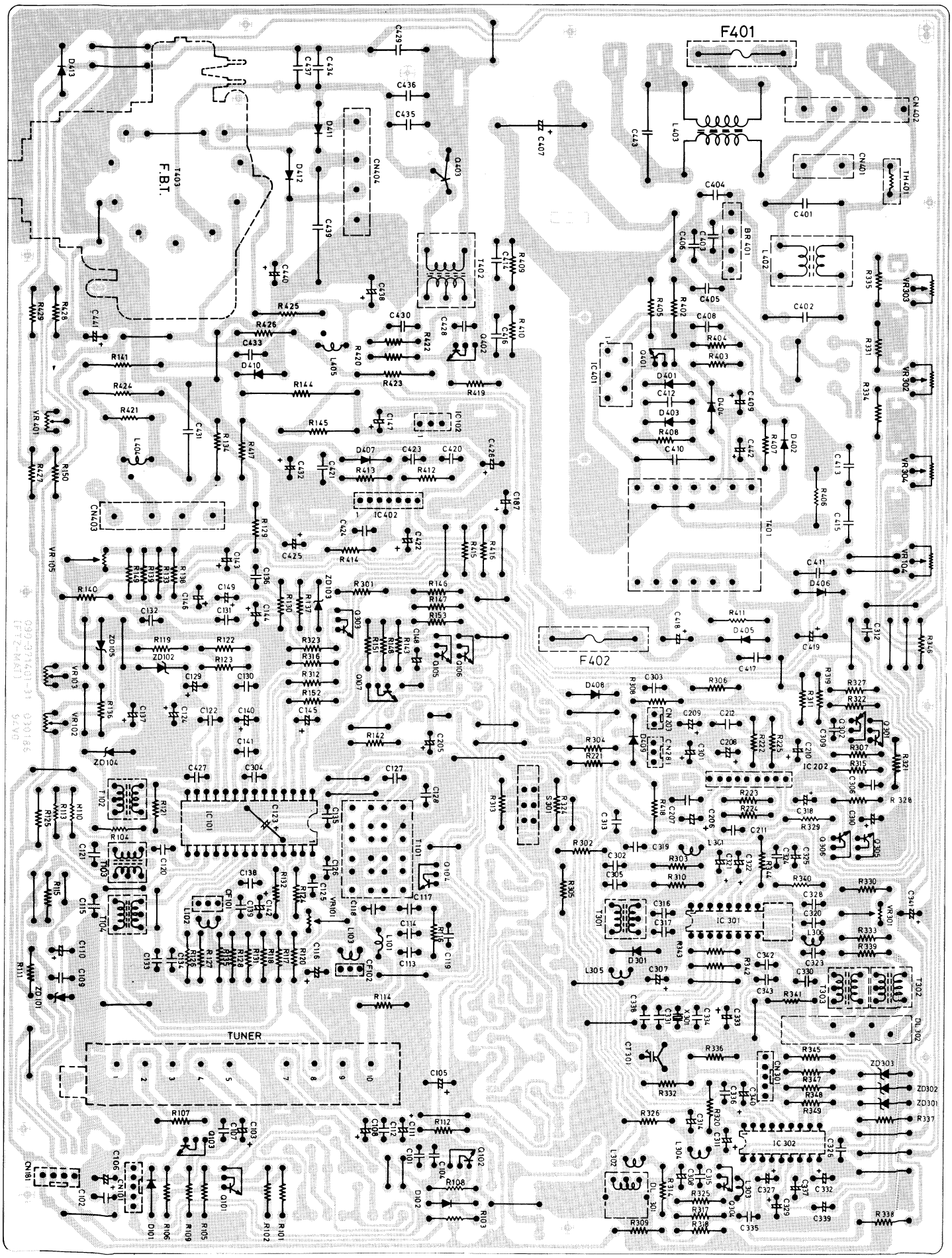


REMARK: ☆OPTIONAL

Component Diagram of Main Board (Top View) for Manual (W/O Audio, Video in Jack)

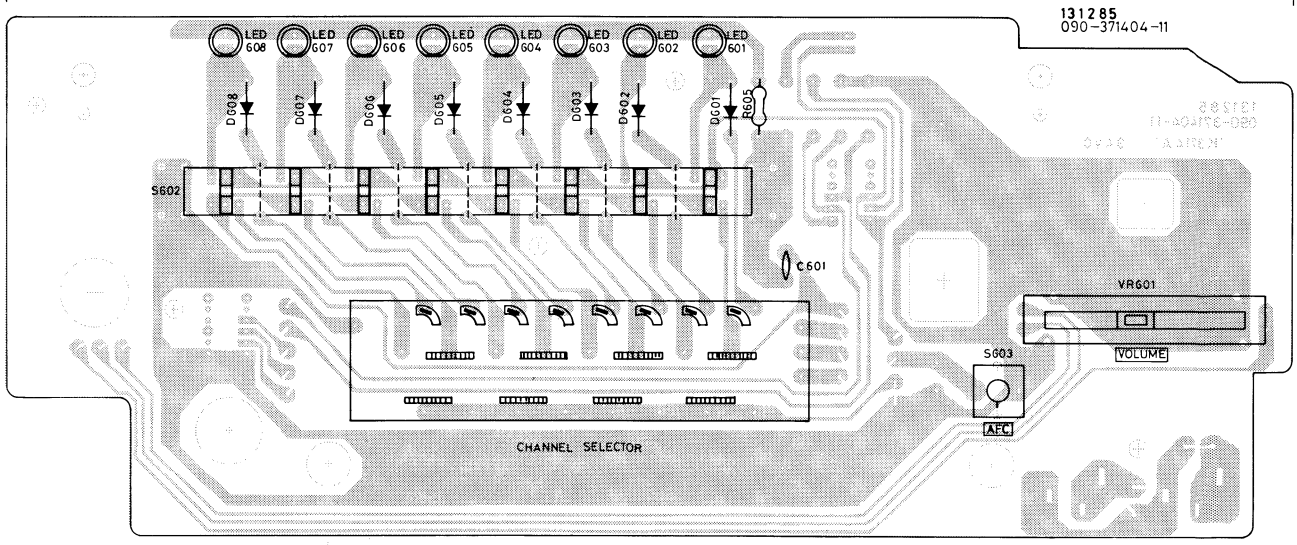


Component Diagram of Main Board (Bottom View) for Manual (W/O Audio, Video in Jack)

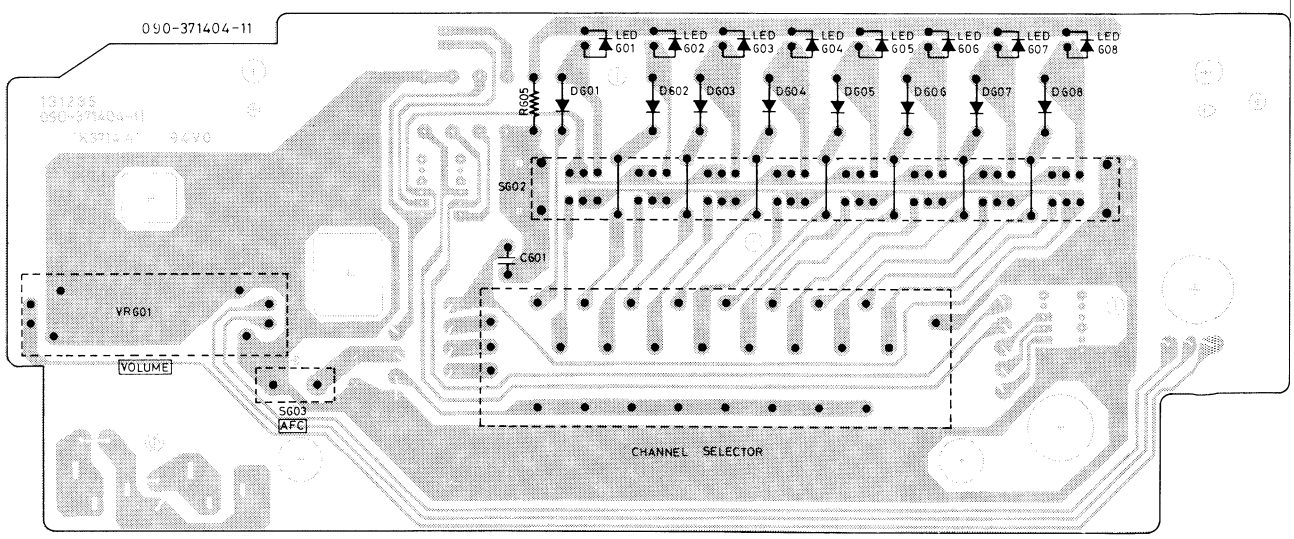


Component Diagram of 'A' Panel (W/O Audio, Video in Jack)

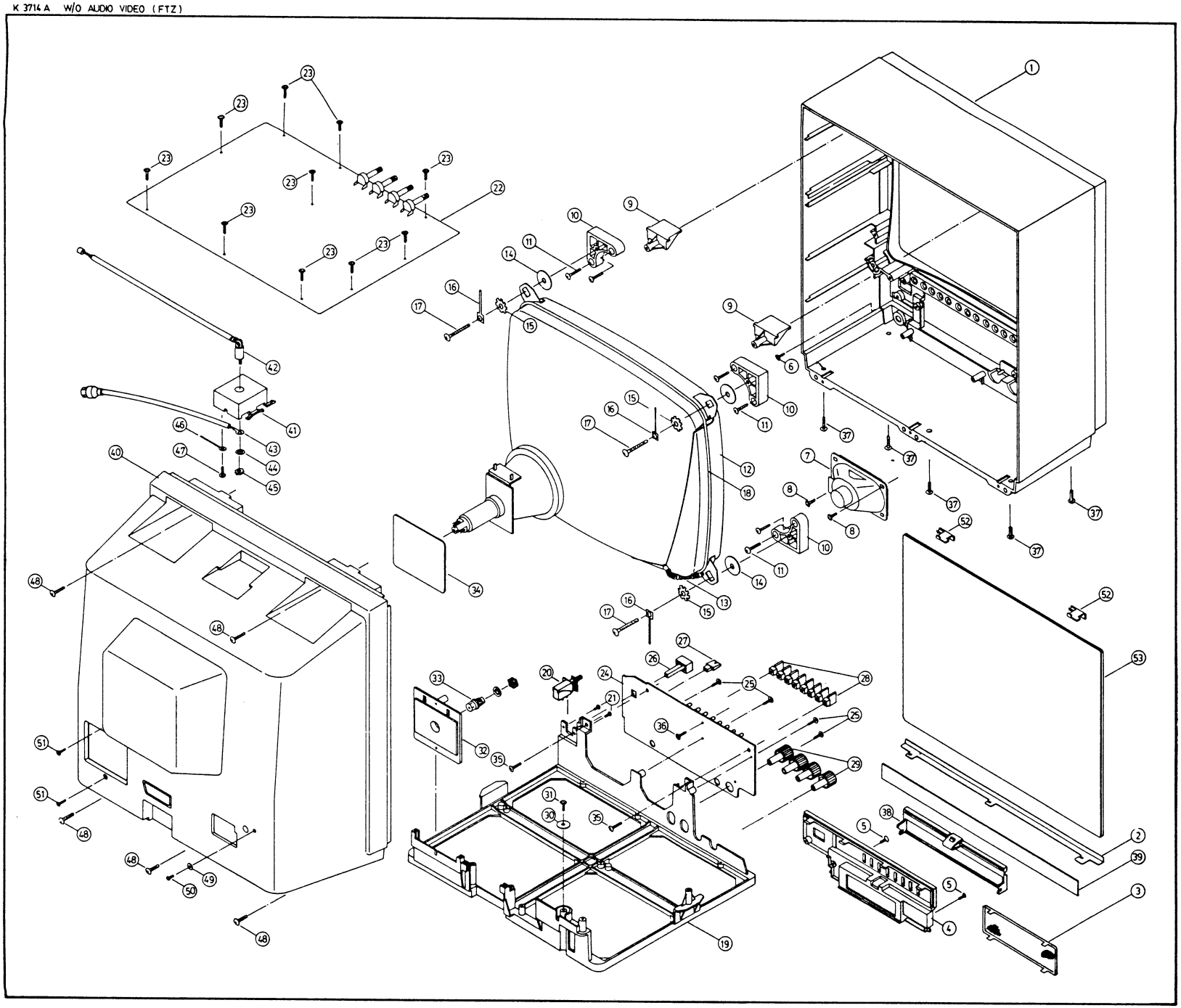
(Top View)



(Bottom View)



EXPLODED VIEW FOR K-3714A (FTZ) * W/O AUDIO;VIDEO IN JACK *



MODEL K-3714A (FTZ, W/O Video,Audio in Jack)

Exploded View Parts List

REF. NO.	PARTS NO.	DESCRIPTION	Qty.
1.	200-371401-01	CABINET FRONT	1
2.	469-371401-01	GLASS SUPPORTER	1
3.	403-371401-01	SPEAKER GRILL	1
4.	230-371401-XX	FRONT PANEL 'A'	1
5.	611-300210-10	SELF-TAPPING SCREW K/T 3.0 x 10mm	2
6.	610-260108-10	SELF-TAPPING SCREW R/T 2.6 x 8mm	1
7.	066-762000-06	SPEAKER	1
8.	612-300210-10	SELF-TAPPING SCREW W/T 3.0 x 10mm	2
9.	229-370101-01	PLASTIC BRACKET	2
10.	259-371403-01	PAL CRT MTG. BRACKET	4
11.	614-400416-10	SELF-TAPPING SCREW B/T 4.0 x 16mm	8
12.	102-214001-11	COLOR PICTURE TUBE	1
13.	477-371601-01	CRT SPRING	2
14.	334-371601-01	RUBBER RING	4
15.	437-371601-01	PICTURE TUBE WASHER	4
16.	469-371601-01	DEGAUSSING COIL CLAMPER	4
17.	614-500238-10	SELF-TAPPING SCREW B/T 5.0 x 38mm	4
18.		DEGAUSSING COIL	1
19.	220-371401-01	CHASSIS BRACKET	1
20.	046-100001-01	POWER SWITCH	1
21.	600-305006-10	MACHINE SCREW P/H 3.0 x 6mm	2
22.		MAIN P.C.BOARD ASS'Y	1
23.	612-300210-10	SELF-TAPPING SCREW W/T 3.0 x 10mm	10
24.		FRONT CONTROL P.C.BOARD ASS'Y	1
25.	610-300108-10	SELF-TAPPING SCREW R/T 3.0 x 8mm	4
26.	292-371404-01	POWER KNOB	1
27.	273-371401-01	SLIDE VOLUME KNOB	1
28.	277-371401-01	CHANNEL KNOB	3
29.	292-371402-01	TV CONTROL KNOB	4
30.	530-140033-16	FIBER WASHER	1